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Fertilizer Report

August 1 to December 31, 1918

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BUREAU OF CHEMISTRY

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LETTER OF TRANSMITTAL.

DEPARTMENT OF AGRICULTURE
BUREAU OF CHEMISTRY

Harrisburg, Pa., April 24, 1919.

Hon. Fred Rasmussen,
Secretary of Agriculture,
Harrisburg, Pa.

Dear Sir:—I have the honor to transmit herewith for your approval a report showing the results of the inspection of commercial fertilizers during the Fall season of 1918 including the chemical analyses of samples received from the authorized sampling agents of the Department and other data thought to be of importance.

It is recommended that this report be published in bulletin form for distribution.

Very respectfully,

JAMES W. KELLOGG,
Chief Chemist.

* * *

FERTILIZER REPORT

August 1 to December 31, 1918

INTRODUCTION.

In accordance with the provisions of the laws regulating the sale of commercial fertilizers, during the Fall inspection season covered by this report, the authorized sampling Agents of the Department secured from dealers and selling agents in each County in the Commonwealth, 780 samples of fertilizers and forwarded them together with reports covering each, to the Bureau of Chemistry. Of this number, 545 were selected for analysis representing 367 different brands of complete mixtures supplying nitrogen, phosphoric acid and potash, fertilizers containing nitrogen and phosphoric acid, rock and potash mixtures furnishing phosphoric acid and potash, ground bone, acid phosphate, tankage, dried blood, phosphate rock and nitrate of soda fertilizers representing the brands registered with the Department as required by 69 manufacturing firms. Those samples not analyzed included non-registered brands and duplicate samples of like brands which, in order to avoid unnecessary duplication and expenses, were not subjected to examination. In each of the samples analyzed, determinations were made for moisture, nitrogen, total, available and insoluble phosphoric acid and water soluble potash where guarantees were given for these forms of plant food in order to determine whether or not the guarantees claimed were correct. A microscopical examination was also made of those samples supplying nitrogen for the purpose of detecting the presence of materials such as untreated leather, hoof, horn and wool-waste, which if used are required to be shown on sacks or tags, and only accidental traces were observed.

An examination was also made of those samples where the word "bone" formed a part of the brand name in order to determine whether or not, as required, the phosphoric acid contained in such fertilizers was derived from animal bone, and one such sample was found not to have been correctly labeled as the phosphoric acid present was not derived from animal bone. In this case the brand name was corrected and re-registration submitted so that future shipments will be branded in accordance with requirements.

The results of analysis show that of the total number of samples, 108 or 19.8 per cent. failed to meet their guarantees while the majority exceeded the claims made upon sacks or attached cards. The proportion of deficiencies was considerably less than found in the samples examined during the Spring and slightly in excess of the previous Fall inspection seasons. The potash content of the complete fertilizers remained low compared with those of pre-war seasons, the highest guarantee being 2 per cent. and there were twice as many brands of nitrogen and phosphoric acid fertilizers received as of the complete class, which can be attributed to the scarcity of materials supplying potash. A marked decrease in the amount of potash supplied and an increase in the brands without potash has occurred in the last ten years. There were 33 different formulaes or brands of complete fertilizers, many brands containing only small amounts of nitrogen and potash and also several brands of the nitrogen and phosphoric acid fertilizers showed low guarantees for these elements. In these low grade fertilizers the amount of filler usually makes up a large proportion of the mixture and, therefore. judging from the selling prices, it is more profitable to purchase those brands furnishing the larger amounts of plant food.

No attempt has been made to show valuations for the Fall fertilizers because of the unsettled trade conditions and apparent retail price inconsistencies, except in the discussion of results of inspection where the lowest and highest and average retail prices of each class are indicated. The average retail prices were slightly in excess of those prevailing in the Spring samples and considerably in excess of the values for the fertilizers found on the market during the Fall of 1917. It will be of interest to indicate herewith the retail unit values of nitrogen, available phosphoric acid and potash in the acid phosphate, nitrogen and phosphoric acid and complete fertilizers based upon their average analyses and retail values. The average available phosphoric acid in the acidulated phosphate samples was 15.83 per cent. and the average price $25.89 which would give $1.64 a unit or 8.2c a pound for phosphoric acid. Using this value, the nitrogen in the mixed fertilizers without potash would give $12.27 a unit or 61.3c a pound for nitrogen. In a like manner, using these values for nitrogen and phosphoric acid, the potash in the complete fertilizers would give $7.10 a unit or 35.5c a pound. These values cannot be considered accurate and would include freight, bagging, mixing, commission, etc. There were marked variations in the selling prices especially in the different brands of complete and nitrogen and phosphoric acid fertilizers. Of the 38 samples of 1-8-1 complete brands, guaranteed to contain the same amount of plant food, there was a difference of $28.06 between the highest and lowest retail prices of

$56.56 and $28.50 respectively. In the 2-8-2 brands, the 10 samples represented shipments which sold for from $28 to $58, a difference of $30 a ton in fertilizers of like composition. A study of the tables will show similiar fluctuations in prices.

In the following pages will be found copies of the fertilizer laws, a discussion of the results of inspection and tables showing in detail the results of chemical analyses of each sample.

ACKNOWLEDGMENTS.

Acknowledgment is herewith made to the Secretary of Agriculture during the period covered by this report, Hon. Charles E. Patton, to Hon. G. G. Hutchison, General Agent and Mr. H. E. Klugh, Chief Clerk, for the advice and assistance received. Many thanks are extended to all those of the Bureau Staff whose assistance and cooperation has made possible the successful completion of the inspection work.

Mr. V. B. Hausknecht, First Assistant Chemist, had charge of the receipt and preparation of samples and supervision of the details of analytical work, making duplicate analyses and check determinations where required. The microscopical examinations were made by H. E. Gensler, who also assisted in the analytical work. The following assistants took part in the chemical analyses of samples: Messrs. William Weber, G. J. Kuhlman, Jr., F. B. Williams, C. R. Engle, W. E. Huber and W. W. Cassel.

The tabulation of the average composition of the fertilizers for the three decades, 1898, 1908 and 1918 included, under "Average Analyses and Retail Prices" was prepared by Dr. William Frear, Vice Director and Chemist of the Agricultural Experiment Station.

FERTILIZER LAWS.

The following laws regulating the sale of fertilizers are included in this report for reference as to the requirements necessary in selling fertilizers in Pennsylvania. The Act of May 1, 1909, commonly referred to as the "New Fertilizer Law," was amended May 29, 1917, by changes in section 1 with respect to labeling and guarantees, and in section 3, making changes in schedule of registration fees. This law as amended and now in force together with the Bone Law, approved April 23, 1909, are as follows:

FERTILIZER LAW

As amended May 29, 1917.

No. 205.

AN ACT

To regulate the manufacture and sale of commercial fertilizers; prescribing penalties for its violation, and repealing an act entitled "An act to regulate the manufacture and sale of commercial fertilizers; providing for its enforcement, and prescribing penalties for its violation," approved the twenty-fifth day of March, Anno Domini one thousand nine hundred and one.

Section 1. Be it enacted, &c., That all corporations, associations, partnerships, or persons, before selling or offering for sale any commercial fertilizer in the Commonwealth except the dung of domestic animals, lime, marl, and wood ashes, shall brand or attach to each bag, barrel, or package in a conspicuous place on the outside thereof, a plainly printed statement giving the following particulars and no others:—

(1) The number of pounds of fertilizer contained in the package.

(2) The name, brand, or trade-mark under which the fertilizer is sold.

(3) The name and principal address of the manufacturer, importer, or other person putting the fertilizer on the market in this Commonwealth.

(4) The minimum percentage of each of the following constituents which the fertilizer may contain: (a) Nitrogen; (b) nitrogen equivalent to ammonia; (c) total phosphoric acid; (d) available phosphoric acid; (e) potash soluble in distilled water. The potash may be claimed "derived from" or "equivalent to," sulphate of potash, if there is not a sufficient amount of chlorine present to unite with one-half (½) of one per centum (1%) of actual potash (KO_2). In the case of undissolved bone, tankage, phosphate rock, and similar materials in their natural and untreated conditions, when sold unmixed with other substances, the minimum percentage of the total phosphoric acid therein may be stated, instead of the percentage of total and available phosphoric acid. But, in the case of basic phosphatic slag, the available phosphoric acid shall be stated on the basis of the results of an analysis by the Wagner method, so-called, until such time as the Association of Official Agricultural Chemists of North

America shall adopt an official method of analysis for basic slag, after which the available phosphoric acid shall be stated on the basis of an analysis by the method of said association.

Section 2. Every manufacturer or importer of commercial fertilizers, as specified in section one of this act, shall, on or before the first day of January of each year, or before offering them for sale in this Commonwealth, file annually with the Secretary of Agriculture a statement of the names and number of brands of such commercial fertilizers, having distinct trade-names, that he shall offer for sale during the next ensuing year, and a copy of the analysis of each one of such brands of commercial fertilizers, as required by section one of this act.

Section 3. In addition to the statement required by section two of this act, every manufacturer or importer of commercial fertilizers shall, on or before the first day of January of each year, or before offering them for sale in this Commonwealth, file annually with the Secretary of Agriculture an affidavit showing the amount of each brand of fertilizer, having a distinct trade-name, sold within the Commonwealth during the last preceding year; and if the said amount shall be one hundred and fifty tons or less, he or they shall pay or cause to be paid to the Secretary of Agriculture the sum of fifteen dollars for each and every brand of such commercial fertilizer, having a distinct trade-name, sold within the State during the last preceding year; and if the said amount shall exceed one hundred and fifty tons, and be not more than two hundred and fifty tons, he or they shall pay the sum of twenty dollars, as aforesaid; if the said amount shall exceed two hundred and fifty tons, and not more than four hundred tons, he or they shall pay the sum of thirty dollars; if the amount shall exceed four hundred tons, and not more than five hundred tons, he or they shall pay forty dollars; and if the amount shall exceed five hundred tons, he or they shall pay fifty dollars. If such manufacturer or manufacturers, importer or importers, shall not have made any sales within the Commonwealth during the preceding year, he or they shall pay the sum of fifteen dollars upon each such brand, as aforesaid: Provided, That all moneys so received shall be immediately paid by the Secretary of Agriculture into the State Treasury for the use of the Commonwealth.

Section 4. No person shall sell, offer, or expose for sale, in this State, any pulverized leather, hair, ground hoofs, horns, or wool waste, raw, steamed, roasted, or in any form, as a fertilizer, or as an ingredient of a fertilizer or manure, without an explicit statement of the fact; said statement to be conspicuously affixed to every package of such fertilizer or manure, and to accompany and go with every lot, parcel, or package of the same.

Section 5. Any person or persons selling, offering or exposing for sale, any commercial fertilizer or any brand of the same, having a distinct trade-name, without the analysis required by section one of this act, or with an analysis stating that it contains a larger percentage of any one or more of the above-named constituents than is contained therein, or for the sale of which all the provisions of sections two and three have not been complied with, or any person violating any of the provisions of section four of this act, shall be guilty of a misdemeanor, and, on conviction, shall be sentenced to pay a fine of not less than twenty-five nor more than one hundred dollars for the first offense, and not less than two hundred dollars for each subsequent offense. It shall be the duty of the Secretary of Agriculture to enforce the provisions of this act, and all penalties, costs, and fines recovered shall be paid by him or his duly authorized agent, and by him shall be immediately paid into the State Treasury, for the use of the Commonwealth.

Section 6. The Secretary of Agriculture is hereby empowered to collect samples of commercial fertilizers, either in person or by his duly qualified agent or representative, and to have them analyzed, and to publish the results for the information of the public; and for this purpose the said Secretary of Agriculture, such assistants, agents, experts, chemists, detectives, and counsel as he shall duly authorize, shall have full access, ingress, and egress to and from all places of business, factories, barns, buildings, carriages, cars, and vessels, used in the manufacture and transportation, or sale, of any commercial fertilizer. They shall also have power to open any package or vessel containing or supposed to contain any commercial fertilizer and take therefrom samples for analysis, upon tendering the value of said samples.

Section 7. The term "commercial fertilizers," as used in this act, shall be construed to mean any and every substance imported, manufactured, prepared, or sold for fertilizing or manuring purposes, except the dung of domestic animals, marl, lime, and wood-ashes, and not exempt by the provisions of section one of this act.

Section 8. This act shall go into effect on and after the thirty-first day of July, one thousand nine hundred and nine; and the act entitled "An act to regulate the manufacture and sale of commercial fertilizers; providing for its enforcement, and prescribing penalties for its violation," approved the twenty-fifth day of March, Anno Domini one thousand nine hundred and one, is hereby repealed.

BONE LAW.

No. 95.

AN ACT

Making it unlawful for any person, firm, or corporation, engaged in the manufacture or sale of commercial fertilizers, to use the word "bone" in connection with, or as part of the name of, any fertilizer, or any brand of the same, unless the phosporic acid contained in such fertilizer shall be the product of pure animal bone; and provding a penalty for violation of the same.

Section 1. Be it enacted, &c., That it shall be unlawful for any person, firm, or corporation, engaged in the manufacture or sale of commercial fertilizers, to use the word "bone" in connection with, or as part of the name of, any fertilizer, or any brand of the same, unless the phosphoric acid contained in such fertilizer shall be the product of pure animal bone.

Section 2. Any person or persons violating the provisions of this act shall be deemed guilty of a misdemeanor, and, upon conviction thereof, shall pay a fine of fifty dollars for the first offense, and a fine of not less than one hundred dollars, nor more than two hundred dollars for every subsequent offense; such fine or fines to be paid into the State Treasury, for the use of the Commonwealth. The Secretary of Agriculture shall, together with his deputies, agents, and assistants, be charged with the enforcement of this act.

Section 3. All magistrates, aldermen, and justices of the peace throughout this Commonwealth shall have jurisdiction to hear and determine actions arising from violations of the provisions of this act, and shall have authority to hold for court, or to impose the penalty hereby prescribed, subject to appeal, as the law shall direct.

Section 4. This act shall go into effect on the first day of January, Anno Domini nineteen hundred and ten.

Approved—The 23rd day of April A. D. 1909.

EDWIN S. STUART.

DISCUSSION OF THE RESULTS OF INSPECTION.

The 545 samples of fertilizers received and analyzed during the Fall inspection season included 367 different brands, registered and sold by 69 Companies. The results of analysis of each sample were tabulated and grouped for comparison in 6 classes as follows: 138 Complete Fertilizers furnishing nitrogen, phosphoric acid and potash; 269 Nitrogen and Phosphoric Acid Fertilizers furnishing these forms of plant food and including dissolved and acidulated bone, mixtures of dissolved bone, acid phosphate and other materials supplying nitrogen and phosphoric acid with fillers; 16 Ground Bone Fertilizers furnishing nitrogen and phosphoric acid; 85 Acidulated Phosphate Fertilizers furnishing phosphoric acid; 30 Rock and Potash Fertilizers furnishing phosphoric acid and potash and 7 Miscellaneous Fertilizers including ground phosphate rock, acidulated bone and tankage, blood and nitrate of soda.

COMPLETE FERTILIZERS.

The 138 samples classified as Complete Fertilizers represent 106 brands from 38 Companies. They include 33 different formula of grades supplying from $\frac{1}{4}$ per cent. to 7 per cent. nitrogen, $\frac{1}{4}$ per cent. to 10 per cent. phosphoric acid in an available form and $\frac{1}{8}$ per cent. to 2 per cent. water soluble potash. One brand having the formula $\frac{1}{4}$-$\frac{1}{4}$-$\frac{1}{8}$ furnishing less than 1 per cent. of total plant food containing a large proportion of inert matter having no fertilizer value, and selling for $10 a ton, while being classified as a complete fertilizer, cannot be said to fairly represent this class and consequently was excluded from the averages. A comparison of the results of analyses showed marked differences in composition, the nitrogen ranging from 0.40 per cent. to 5.20 per cent. averaging 1.44 per cent., the available phosphoric acid from 4.71 per cent. to 11.20 per cent. averaging 8.67 per cent. and the potash from 0.38 per cent. to 2.83 per cent. averaging 1.17 per cent. The deficiencies were less numerous than those prevailing for this class during the Spring season, 4 being deficient in nitrogen, 16 in available phosphoric acid and 9 in potash. Many of the samples, as will be noted, "over ran" their guarantees. The potash content of the complete fertilizers was low as has been the case for several seasons, the highest guarantee being 2.00 per cent. which was supplied by 7 brands of 1-8-2 and 1 brand of 1-9-2. In about one-third of the samples the potash was in the form of muriate and in the same number as sulphate, the balance having potash present both as muriate and sulphate. The retail selling prices also showed wide differences of from $25 in a brand supplying 1.26 per cent. potash to $71 for a brand analyzing 5.20 per cent. nitrogen, 6.53 per cent. available phosphoric acid and 1.11 per cent. potash and averaged $38.99 a ton.

A comparison of the brands of like formula, or those furnishing the same amounts of nitrogen, phosphoric acid and potash, and their retail selling prices with the brands having other formulaes, together with their selling prices, will be of interest to those desiring to obtain the largest amount of plant food for the money invested. The grade or formula represented by the largest number of samples was 1-8-1 and included 25 brands and the selling prices were from $28.50 to $56.56 and averaged $36.21 a ton. The 11 brands having the formula 1-7-1 representing 15 shipments sold for from $28.50 to $40 and averaged $34.90 a ton. There were 10 brands and samples of 2-8-2 retailing for from $28 to $58 averaging $46.96 a ton. Similar fluctuations were also observed in other grades where a number of samples were received. The lowest price for one of the 1-8-1 brands was less than the average prices for those supplying less total plant food and the highest value for a 1-8-1 brand exceeded the average charged for any of the grades supplying greater amounts of nitrogen, phosphoric acid and potash. These figures, as has been shown in previous reports, indicate that it is important to give careful attention to the guarantees and the prices for which the different formula grades of complete fertilizers are sold in order that the largest amount of the elements supplying plant nutrition can be secured for the lowest expenditure. The higher grades as will be noted by a study of the values indicated, can often be purchased for that which is charged for those brands supplying only small amounts or fractional percentages of plant food. The average composition of the samples of each brand having like formulaes and supplying the same amounts of nitrogen, available phosphoric acid and water soluble potash, together with their formula, number of brands and samples averaged are shown in the following table. The analyses in detail will be found in Table I.

Formula.	Number of brands.	Number of samples.	Nitrogen.	Available phosphoric acid.	Potash.	Price.
			%	%	%	$
¼-¼-⅛,	1	2	0.30	*0.33	0.19	10.00
¼-9-¼,	1	1	0.63	8.96	0.39	30.00
½-6-½,	1	1	0.78	6.28	0.92	26.50
½-8-¼,	1	2	0.63	9.16	0.40	29.00
½-8-½,	3	4	0.74	8.82	0.63	29.38
½-8-1,	4	5	0.74	8.57	0.99	31.19
¾-8-1,	1	1	0.94	9.30	1.08	34.00
1-7-½,	1	3	1.23	8.28	0.75	32.18
1-7-1,	11	15	1.16	7.75	0.99	34.90
1-8-1,	25	38	1.13	8.51	1.04	36.21
1-8-2,	7	8	1.20	8.18	2.09	40.89
1-9-1,	4	4	1.23	9.84	1.20	35.23
1-9-2,	1	1	1.06	9.37	2.02	42.00
1-10-1,	4	8	1.18	10.15	0.98	35.63
1¼-8-¾,	1	3	1.07	7.71	1.66	36.00
1¼-8-1,	1	1	1.04	8.86	0.93	37.50
1½-8-1,	1	1	1.50	8.86	1.21	38.00
1½-10-1,	5	6	1.63	10.50	1.18	41.90
1¾-7-1,	1	1	1.23	8.26	0.76	44.00
1¾-8-½,	1	1	1.36	7.13	0.50	37.00
2-7-1,	1	1	1.79	7.27	1.11	44.00
2-8-1,	2	2	2.04	8.86	0.91	43.00
2-8-2,	10	10	2.02	8.38	2.12	46.96
2-8½-1,	1	1	1.86	8.31	1.43	43.00
2-9-1,	1	2	2.14	9.49	1.02	55.50
2-10-1,	4	4	1.82	10.33	1.15	44.69
2½-8-1,	3	3	2.21	9.03	1.27	48.33
3-9-1,	3	3	2.52	9.59	1.26	49.67
3½-10-1,	1	1	2.82	10.62	1.34	41.00
4¾-5-1,	1	1	4.00	6.35	1.70	65.00
5-6-1,	1	1	4.33	4.71	1.24	63.00
5-8-1,	2	2	3.99	8.69	1.27	50.00
7-6-1,	1	1	5.20	6.53	1.11	71.00
33 Totals,	106	138	1.44	8.67	1.17	38.99

*Total phosphoric acid not in average.

NITROGEN AND PHOSPHORIC ACID FERTILIZERS.

The fertilizers supplying nitrogen and phosphoric acid including dissolved bones, ammoniated phosphates, mixtures of material supplying nitrogen and phosphoric acid, included 269 samples and 169 brands, the product of 62 Companies. This class includes twice as many samples and brands as the complete fertilizers which supply potash and owing to the continued scarcity in the supply of available potash materials, judging from the brands obtained for analysis, these grades of fertilizers are sold to a larger extent than the complete fertilizers. There was considerable variation in their composition, the nitrogen ranging from 0.23 per cent. to 5.70 per cent. averaging 1.46 per cent. and the available phosphoric acid ranged from 5.89 per cent. to 15.37 per cent. averaging 9.94 per cent. The selling prices were from $21.50 to $65.00 and averaged $34.21 a ton. There were 2 samples representing shipments having the lowest price which analyzed 0.23 per cent. and 0.29 per cent. nitrogen and 7.87 per cent. and 18.40 per cent. available phosphoric acid, one of which failed to meet the guarantees. The sample representing the brand having the highest selling price analyzed 5.70 per cent. nitrogen and 6.26 per cent. available phosphoric acid. The proportion of deficiencies in this class of fertilizers was less than those examined during the Spring season, 17 being found to contain less nitrogen and 41 less available phosphoric acid than claimed while, as will be noted by referring to Table II showing results of analyses, the majority of the samples "over ran" their guarantees.

GROUND BONE FERTILIZERS.

The Ground Bone Fertilizers which were analyzed for nitrogen and total phosphoric acid numbered 16 samples and included 11 brands the output of 9 Companies. One sample was found to be deficient in nitrogen and 3 in total phosphoric acid, the majority, as will be noted, exceeding the guarantees claimed. They varied from 1.69 per cent. to 4.70 per cent. averaging 3.05 per cent. nitrogen and from 17.31 per cent. to 30.16 per cent. averaging 24.17 per cent. total phosphoric acid. The results of determinations for the degree of fineness, showing that portion of the sample which passed through a 1/50th of an inch mesh sieve, were from 46 per cent. to 70 per cent. averaging 61 per cent. "fine." The portions not passing through such a sieve were classed as "coarse" and ranged from 29 per cent. to 54 per cent. averaging 39 per cent. The retail selling prices were from $45 to $58 and averaged $50.57 a ton. Table III includes the results of analyses.

ACIDULATED PHOSPHATE FERTILIZERS.

There were 85 samples including 57 different brands representing the product of 36 Companies received for analysis during the Fall season, classified as acidulated phosphate fertilizers, the product resulting from the acid treatment of raw phosphate rock. They furnish and are guaranteed to contain phosphoric acid in an available form. No deficiencies were found where the available phosphoric acid was less than 0.2 per cent. below their guarantees and as will be noted nearly all of the samples analyzed in excess of the amounts claimed. The guarantees for available phosphoric acid were from 10 per cent. to 16 per cent., 43 representing shipments having 16 per cent. guarantees and 29, 14 per cent. guarantees, the remaining few being guaranteed for 10 per cent., 12 per cent. and 13 per cent. They were found upon analysis to contain from 11.37 per cent. to 18.72 per cent. averaging 15.83 per cent. available phosphoric acid. The majority of the samples were low in insoluble phosphoric acid containing from 0.06 per cent. to 2.67 per cent. averaging 0.86 per cent. The retail selling prices were from $20 in a brand analyzing 13.55 per cent. to $35 in one analyzing 17.92 per cent. available phosphoric acid and averaged $25.89 a ton. The results of analyses will be found in Table IV.

ROCK AND POTASH FERTILIZERS.

There were 30 samples including 16 brands, the output of 11 Companies supplying phosphoric acid and potash, analyzed and classified as Rock and Potash Fertilizers. They varied in composition from 8.83 per cent. to 14.25 per cent. averaging 11.03 per cent. available phosphoric acid and from 0.87 per cent. to 2.64 per cent. averaging 1.60 per cent. water soluble potash. Seven samples were found deficient in available phosphoric acid and 7 in potash, 3 of these being deficient in both elements of plant food. The guarantees for available phosphoric acid were from 10 per cent. to 12 per cent. and for potash from 1 per cent. to 2 per cent. The selling prices ranged from $26 in a sample containing 10.53 per cent. available phosphoric acid and 2.04 per cent. potash, to $37 in one analyzing 10.05 per cent. available phosphoric acid and 1.88 per cent. potash, and averaged $33.39 a ton. Another sample of the same brand selling at the same price ran under the guarantees claimed. The results of analyses will be found in Table V.

MISCELLANEOUS FERTILIZERS.

There were 7 samples classified as Miscellaneous, as shown in Table VI, including 1 of Tennessee phosphate rock analyzing 27.44 per cent. total phosphoric acid selling at $15 a ton; 1 of a mixture of ground bone and acidulated tankage analyzing 2.80 per cent. nitrogen, 12.31 per cent. total phosphoric acid selling for $42.20 a ton; 2 samples of 1 brand of Ground Tankage analyzing 6.50 per cent. and 5.86 per cent. nitrogen, 5.65 per cent. and 6.81 per cent. total phosphoric acid, both selling for $78 a ton; 1 brand of Nitrate of Soda analyzing 15.81 per cent. nitrogen, selling at $105 a ton; 1 brand of Tankage containing 6.96 per cent. nitrogen, 10.73 per cent. total phosphoric acid, selling for $60 a ton and a brand of Ground Blood containing 13.65 per cent. nitrogen and having a retail selling price of $132.60 a ton. Of this group of fertilizers, two were found deficient in total phosphoric acid.

DEFICIENCIES.

The samples which, upon analysis, were found to contain .2 per cent. less nitrogen, phosphoric acid and potash, than guaranteed and .10 per cent. low in the case of nitrogen and potash having guarantees of .50 per cent. or less, were considered as being "deficient" and are thus indicated in the tables showing analytical results by an asterisk (*) prefixed to the percentages found less than claimed. The deficiencies were normal and less numerous in proportion to those found in the samples of the Spring inspection season while a large number, as will be observed "overran" their guarantees. Of the complete fertilizers 4 or 2.9 per cent. were deficient in nitrogen, 16 or 11.6 per cent. in available phosphoric acid and 9 or 6.5 per cent. in potash. In the group of fertilizers including dissolved bones and ammoniated phosphates, the largest number of deficiencies occurred, 17 or 6.3 per cent. containing less nitrogen and 41 or 15.2 per cent. less available phosphoric acid than guaranteed. Of the ground bone fertilizers, 1 or 6.3 per cent. was deficient in nitrogen and 3 or 18.8 per cent. in total phosphoric acid. In the case of the rock and potash fertilizers, 7 or 23.3 per cent. were deficient in available phosphoric acid and the same number in water soluble potash and in the miscellaneous samples, 2 or 40 per cent. ran low in total phosphoric acid. There were no deficiencies found in the samples of acidulated phosphate. In considering the total deficiencies, there were 429 guaranteed for nitrogen and of this number, 22 or 5.1 per cent. were below the guarantees. The samples guaranteed for total phosphoric acid numbered 23, and 6 or 26.1 per cent. were deficient. There were 520 samples shown to contain a fixed amount of available phosphoric acid and 64 or 12.3 per cent. were below their guarantees. Water soluble potash was claimed in 168 samples and 16 or 9.5 per cent. were deficient. Of the total number or 545 fertilizers analyzed, 108 or 19.8 per cent. contained less plant food than advertised. The number of samples in each class found deficient is shown in the following table.

Classes of Fertilizers.	Number of samples.	Deficient in nitrogen.	Deficient in available phosphoric acid.	Deficient in potash.
Complete fertilizers,	138	4	16	9
Nitrogen and phosphoric acid fertilizers,	269	17	41	--------
Ground bone fertilizers,	16	1	*3	--------
Acidulated phosphate fertilizers,	85	--------	--------	--------
Rock and potash fertilizers,	30	--------	7	7
Miscellaneous fertilizers,	7	--------	*2	--------
Totals,	545	22	69	16

*Total phosphoric acid.

AVERAGE ANALYSES AND RETAIL PRICES.

The average composition of the Fall samples of fertilizers compared with those of the corresponding season of 1917 and of the preceding Spring season show but slight variations. The average content of potash in the complete fertilizers was lower and the nitrogen higher than those examined during the previous Fall season. The ground bone fertilizers contained a little more total phosphoric acid and were more finely ground. A comparison of the average composition of the mixed fertilizers for the past three decades, namely, 1898, 1908 and 1918, will be of interest in showing the changes in the character of these classes of fertilizers during these periods and in order that the results may be more readily compared, the following table is included:

COMPLETE FERTILIZERS.

Year.	Season.	Brands.	Moisture.	Nitrogen.	Phosphoric Acid.		Potash.
					Available.	Insoluble.	
			%	%	%	%	%
1898	Spring,	380	8.71	1.61	9.31	2.38	3.46
	Fall,	195	9.50	1.41	9.75	2.28	2.52
1908	Spring,	455	9.45	1.64	8.29	1.78	5.04
	Fall,	247	9.39	1.24	8.29	2.00	3.24
1918	Spring,	241	7.18	1.43	8.79	1.44	1.29
	Fall,	106	5.97	1.44	8.67	1.33	1.17

NITROGEN AND PHOSPHORIC ACID FERTILIZERS.

1898	Spring,	11	6.35	3.41	8.79	4.51	--------
	Fall,	9	7.95	1.84	10.07	5.11	--------
1908	Spring,	4	5.75	1.49	10.02	2.14	--------
	Fall,	6	6.61	1.45	10.56	3.09	--------
1918	Spring,	268	7.11	1.63	9.95	1.47	--------
	Fall,	169	5.66	1.46	9.94	1.43	--------

ROCK AND POTASH.

1898	Spring,	54	9.66	--------	11.03	1.78	2.15
	Fall,	50	10.22	--------	11.25	1.66	2.09
1908	Spring,	108	9.76	--------	10.33	1.26	3.55
	Fall,	104	8.81	--------	9.97	1.16	3.62
1918	Spring,	4	5.14	--------	8.61	1.96	1.34
	Fall,	16	5.71	--------	11.03	1.49	1.60

It will be observed that the nitrogen and potash in the complete fertilizers decreased during the 30 year period. The nitrogen and phosphoric acid fertilizers contained less insoluble phosphoric acid in 1918 than in the previous decades with fluctuations in available phosphoric acid, while in the rock and potash fertilizers there were noticeable differences in potash, the 1918 samples containing about one-half as much potash as those of 1908 and less than those of 1898. The lower amounts of potash supplied by these fertilizers during 1918 was no doubt caused by the shortage in potash materials during this period. The most noticeable contrast is in the case of the number of brands represented. During 1898, Spring and Fall, there were 699 brands of the 3 classes analyzed and 578 brands or 82 per cent. were complete fertilizers; 20 or 3 per cent. fertilizers supplying nitrogen and available phosphoric acid and 104 or 15 per cent. were rock and potash fertilizer mixtures. The brands of these classes examined in 1908 numbered 922 of which 702 or 76 per cent. were complete fertilizers, 10 or 1 per cent. nitrogen and phosphoric acid fertilizers and 212 or 23 per cent. rock and potash fertilizers. The 1918 samples included 804 brands and 347 of these or 43 per cent. were complete fertilizers; 437 or 54 per cent. nitrogen and phosphoric acid fertilizers and 20 or 3 per cent. rock and potash fertilizers. During the 3 decades there was a marked decrease in the proportionate number of brands of complete fertilizers offered for sale. In 1918 the brands of the nitrogen and phosphoric acid class outnumbered the complete fertilizers and were much greater in proportion to the other classes than was the case for the years of 1898 and 1908. This condition was largely brought about by the shortage of potash materials during the war period and the necessity for increasing the number of brands of fertilizers without potash in order to supply the demand for fertilizers supplying nitrogen and phosphoric acid where potash could not be obtained.

In the following table is shown the average analyses and retail selling prices of the samples obtained during the Fall season with the exception of the Miscellaneous Fertilizers:

	Complete fertilizers.	Nitrogen and phosphoric acid fertilizers (dissolved bones, etc.)	Ground bone fertilizers.	Acidulated phosphate fertilizers.	Rock and potash fertilizers.
Number of samples,	138	269	16	85	30
	Per ct.	Per ct.	Per ct.	Per ct.	Per ct.
Moisture,	5.97	5.63	5.52	4.90	5.71
Total nitrogen,	1.44	1.46	3.05	--------	--------
Total phosphoric acid,	10.00	11.37	24.17	16.69	12.52
Available phosphoire acid,	8.67	9.94	--------	15.83	11.03
Insoluble phosphoric acid,	1.33	1.43	--------	0.86	1.49
Potash,	1.17	--------	--------	--------	1.66
Mechanical analysis of bone:					
Fine,	--------	--------	61	--------	--------
Coarse,	--------	--------	39	--------	--------
Selling price,	$38 99	$34 21	$50 57	$25 89	$33 39

The average retail selling prices were a little higher for each class than for those shown for the previous Spring season and considerably in excess of the prices prevailing for the corresponding Fall season of 1917. The average retail ton prices for each class of the fertilizers received during the Fall season of 1917, Spring season 1918 and the season covered by this report respectively, are as follows: Complete Fertilizers $30.26, $38.58, $38.99; Nitrogen and

Phosphoric Acid Fertilizers $27.34, $33.22, $34.21; Ground Bone Fertilizers $43.58, $50.21, $50.57; Acid Phosphate $20.68, $23.45, $25.89, and Rock and Potash Fertilizers $27.50, $30.93, $33.39.

The miscellaneous fertilizers included 1 brand of pulverized phosphate rock selling for $15 a ton, 1 brand of ground bone and acidulated tankage for $42.20, 3 brands of ground tankage averaging $72, 1 brand of nitrate of soda selling at $105 and 1 brand of ground blood having a retail price of $132 a ton.

RESULTS OF CHEMICAL ANALYSES.

The following tables include the detailed results of chemical analyses of each sample. All samples were given a chemist's number as shown in the extreme left and right hand columns and are grouped in alphabetical order of manufacturers and brand names. Each class is shown in separate tables and the following information will serve as a key to these tables:

The asterisk (*) indicates the cases where total nitrogen, available phosphoric acid and total potash are deficient to the extent of .2 per cent. or more below their respective guarantees. In cases where the guarantees are .5 per cent. or less the deficiencies noted are where the amount is .1 per cent. or more below the guarantees.

Order of results of analysis: Moisture, Total Nitrogen found and guaranteed, Total Phosphoric Acid found and guaranteed; Available phosphoric Acid found and guaranteed; Insoluble Phosphoric Acid found and guaranteed; Total Potash found and guaranteed. The Potash is shown as Muriate in the columns and those cases where Potash is present in part or in whole as Sulphate, a dagger at the bottom of the page shows the percentages of Potash in these forms.

To determine the formula of any brand, as guaranteed, multiply Total Nitrogen guaranteed by 1.2158 to obtain Ammonia and then use this figure and the guarantees for Available Phosphoric Acid and Total Potash. For example, Nitrogen guarantee equals .82% (.82x-1.2158=1%). Ammonia equals 1% Available Phosphoric Acid 8% Potash 1%. Formula therefore is 1-8-1.

Complete Fertilizers, Table I, furnishing Nitrogen, Phosphoric Acid and Potash.

Nitrogen and Phosphoric Acid Fertilizers, Table II, including Dissolved Bones and other like products.

Ground Bone Fertilizers, Table III, furnishing Nitrogen and Phosphoric Acid.

Acidulated Phosphate Fertilizers, Table IV, furnishing Phosphoric Acid.

Rock and Potash Fertilizers, Table V, furnishing Phosphoric Acid and Potash.

Miscellaneous Fertilizers, Table VI, including Pulverized Phosphate Rock, Ground Bone, Acidulated Tankage, Ground Tankage, Ground Blood and Nitrate of Soda.

TABLES OF FERTILIZERS

TABLE NO. I.—

Furnishing Nitrogen,

Chemist's number.	Name of Manufacturer and Brand.	Sample Taken From—
	THE AMERICAN AGRICULTURAL CHEMICAL CO., NEW YORK, N. Y.	
5219	All Crop Fish Guano,	G. A. Spencer, Waverly,
5298	Bradley's Niagara Phosphate,	James O. Dewalt, Bethlehem,
5060	Bradley's Niagara Phosphate,	A. Krause & Son, Marwood,
5172	Canton Chemical Eagle Phosphate,	G. R. Thompson, Gettysburg,
5203	Canton Chemical Harrow Brand Crop Grower.	Wm. Gates' Estate, Kittanning,
5427	Canton Chemical Harrow Brand Crop Grower.	W. B. Winey, Middleburg,
5055	Detrick's Kangaroo Komplete Kompound, 1916.	H. F. Gelbach, Evans City,
5409	Detrick's Special Ammoniated Compound,	D. E. Miller, Mifflinburg,
5134	Eagle Phosphate,	A. H. Keeley & Son, Schenecksville,
5639	W. S. Farmer & Co's Branch General Crop Grower, 1916.	Jeremiah Thomas, Somerfield,
4956	Moro-Phillips C. & G. Complete Fertilizer, 1916.	C. A. Wamsley, Phoenixville,
5126	Moro-Phillips Special Fertilizer, 1916,	I. M. Heyburn, Brandywine Summit,
5237	Odorless Grass and Lawn Top Dressing Revised.	T. F. Leonard, Scranton,
5182	Susquehanna Crop Grower,	Z. J. Peters, Guernsey,
5133	Susquehanna XXV Phosphate,	A. H. Keeley & Son, Schenecksville,
5130	Wheat, Corn and Grass Fertilizer,	S. Carl Garner, Hatboro,
5555	Williams & Clark's Special Prolific Crop Producer.	J. S. Moore & Son, Oakdale,
5198	Zell's Little Treasure,	D. A. Hankey, Paranassus,
	AMERICAN FERTILIZING COMPANY, BALTIMORE, MD.	
4915	American Eagle Crop Grower,	Lancaster County Farmers Association. Manheim.
5099	American Special Formula,	Quarryville Farmers Association, Quarryville.
5095	Ammoniated Crop Compound,	John Byer, Quarryville,
4914	Ammoniated Crop Compound,	Lancaster County Farmers Association, Manheim.
	ARMOUR FERTILIZER WORKS, INC., BALTIMORE, MD.	
5371	Crop Grower,	S. H. Snavely, Manheim,
5370	Grain Grower,	S. H. Snavely, Manheim,
5129	Wheat, Corn and Oats (Special),	Elmer Danenberger, Huntingdon Valley,

COMPLETE FERTILIZERS.

Phosphoric Acid and Potash.

Moisture.	NITROGEN.		PHOSPHORIC ACID.						POTASH.		Selling price per ton at place of selection.	Chemist's number.
			Total.		Available.		Insoluble.					
	Found.	Guaranteed.	Found.	Guaranteed.	Found.	Guaranteed.	Found.	Guaranteed.	Found.	Guaranteed.		
%	%	%	%	%	%	%	%	%	%	%	$	
6.87	1.94	1.23	11.89	11.00	10.18	10.00	1.71	1.00	1.13	1.00	--------	5219
5.71	1.13	0.82	9.53	8.00	7.77	7.00	1.76	1.00	†1.00	1.00	34 00	5298
2.67	1.14	0.82	9.69	8.00	8.45	7.00	1.24	1.00	†0.95	1.00	33 00	5060
4.25	1.20	0.82	8.67	8.00	7.97	7.00	0.70	1.00	†1.05	1.00	32 55	5172
3.14	0.96	0.82	9.61	9.00	8.27	8.00	1.34	1.00	†0.93	1.00	38 00	5203
6.19	1.08	0.82	9.13	9.00	8.42	8.00	0.71	1.00	†1.00	1.00	38 00	5427
8.75	1.63	1.65	11.85	11.00	10.05	10.00	1.80	1.00	†1.08	1.00	45 00	5055
6.74	1.14	0.82	9.32	9.00	8.68	8.00	0.64	1.00	†0.97	1.00	--------	5409
4.96	1.08	0.82	9.35	8.00	7.76	7.00	1.59	1.00	†1.16	1.00	39 00	5134
5.22	1.10	0.82	8.56	8.00	7.51	7.00	1.05	1.00	†1.20	1.00	35 00	5639
5.94	0.97	0.82	10.65	9.00	9.76	8.00	0.89	1.00	†1.14	1.00	40 00	4956
6.76	2.20	2.06	11.48	9.00	10.34	8.00	1.14	1.00	†1.57	1.00	48 00	5126
4.03	4.00	3.91	7.00	6.00	6.35	5.00	0.65	1.00	†1.70	1.00	65 00	5237
5.15	1.28	0.82	9.38	8.00	8.53	7.00	0.85	1.00	1.00	1.00	35 00	5182
4.93	1.14	0.82	9.26	9.00	8.04	8.00	1.22	1.00	†1.14	1.00	39 50	5133
8.20	1.24	0.82	11.06	10.00	10.59	9.00	0.47	1.00	†1.74	1.00	43 00	5130
5.15	1.15	0.82	10.05	9.00	8.34	8.00	1.71	1.00	†1.03	1.00	40 00	5555
3.67	1.15	0.82	8.76	8.00	7.40	7.00	1.36	1.00	†1.07	1.00	39 00	5198
8.51	2.11	1.65	9.61	9.00	8.08	8.00	1.53	1.00	†2.73	2.00	48 00	4915
4.97	0.85	0.41	9.63	9.00	8.49	8.00	1.14	1.00	1.35	1.00	30 00	5099
7.41	1.12	0.82	9.26	9.00	7.92	8.00	1.34	1.00	†2.41	2.00	40 42	5095
7.34	1.31	0.82	9.21	9.00	7.93	8.00	1.28	1.00	†2.20	2.00	41 00	4914
5.62	1.31	0.82	8.85	8.50	*7.79	8.00	1.03	0.50	†2.05	2.00	42 00	5371
5.09	1.85	1.65	9.18	8.50	8.10	8.00	1.08	0.50	†2.04	2.00	28 00	5370
3.85	1.24	0.82	9.17	7.50	7.81	7.00	1.36	0.50	1.04	1.00	34 00	5129

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*Deficient.
†No. 5298 as muriate, 0.70%; as sulphate, 0.30%.
†No. 5060 as sulphate, 0.95%.
†No. 5172 as muriate, 0.50%; as sulphate, 0.55%.
†No. 5203 as muriate, 0.60%; as sulphate, 0.33%.
†No. 5427 as muriate, 0.70%; as sulphate, 0.30%.
†No. 5055 as muriate, 0.84%; as sulphate, 0.24%.
†No. 5409 as muriate, 0.60% as sulphate, 0.37%.
†No. 5134 as sulphate, 1.16%.
†No. 5639 as muriate, 0.90%; as sulphate, 0.30%.
†No. 4956 as muriate, 0.68%; as sulphate, 0.46%.
†No. 5126 as muriate, 1.00%; as sulphate, 0.57%.
†No. 5237 as muriate, 0.80%; as sulphate, 0.90%.
†No. 5133 as sulphate, 1.14%.
†No. 5130 as muriate, 0.65%; as sulphate, 1.09%.
†No. 5555 as muriate, 0.50%; as sulphate, 0.53%.
†No. 5198 as muriate, 0.70 %; as sulphate, 0.37%.
†No. 4915 as muriate, 0.68%; as sulphate, 2.05%.
†No. 5095 as muriate, 0.62%; as sulphate, 1.79%.
†No. 4914 as sulphate. 2.20%.
†No. 5371 as muriate, 0.55%; as sulphate, 1.50%.
†No. 5370 as muriate, 0.70%; as sulphate, 1.34%.

TABLE I.—COMPLETE

Chemist's number.	Name of Manufacturer and Brand.	Sample Taken From—
4898	Wheat, Corn and Oats (Special),	Long & Co., Lititz,
5339	Wheat, Corn and Oats (Special),	Falls of French Creek Mdse. Co., St. Peters.
5652	Tuscarora Ammoniated Phosphate,	A. M. Frederick, Fairchance,
	BAUGH & SONS COMPANY, PHILADELPHIA, PA.	
5140	Baugh's Double Eagle Phosphate,	Horace Latshaw & Brother, Anselma,
5656	Baugh's General Crop Grower for all Crops,	Francis Baker, Everett,
4909	Baugh's General Crop Grower for all Crops,	J. H. Reitz, Milway,
5630	Baugh's Peruvian Guano Substitute for Potatoes and all Vegetables.	J. A. Sequine, Cresco,
5632	Baugh's Potato and Truck Special for all Truck Crops.	J. A. Sequine, Cresco,
	BOWKER FERTILIZER COMPANY, SUBSIDIARY OF THE AMERICAN AGRICULTURAL CHEMICAL COMPANY, NEW YORK, N. Y.	
5487	Bowker's Farm and Garden Phosphate, 1916,	Elmer Setzer, Moscow,
5441	Bowker's Sure Crop Phosphate, 1916,	Dan Foley, Daleville,
5227	Bowker's Sure Crop Phosphate, 1916,	Loftus Smith, Elmhurst,
	THE CENTRAL CHEMICAL COMPANY, (THOMAS FERTILIZER WORKS), HAGERSTOWN, MD.	
5177	C C C Fish, Bone and Potash,	Biglerville Warehouse Co., Biglerville,
5610	C C C Phoenix,	L. H. Leiter & Brother, Greencastle,
	THE COE-MORTIMER CO., SUBSIDIARY OF THE AMERICAN AGRICULTURAL CHEMICAL COMPANY, NEW YORK, N. Y.	
5224	E. Frank Coe's Columbian Corn and Potato Fertilizer, 1916.	G. B. Swartz, Moscow,
5556	E. Frank Coe's Gold Brand Excelsior Guano, 1916.	The I. W. Scott Co., Pittsburgh,
5415	E. Frank Coe's New Englander Special, 1916,	Wm. Elsasser, Cocolamus,
5157	E. Frank Coe's Pennsylvania No. 1 Grain Special, 1916.	Adolph Boettinger, Danville,
5658	E. Frank Coe's Pennsylvania No. 1 Grain Special, 1916.	Lester Karus, Clearville,
5557	E. Frank Coe's Pennsylvania No. 1 Grain Special, 1916.	The I. W. Scott Co., Pittsburgh,
	COLUMBIA GUANO COMPANY, BALTIMORE, MD.	
5078	Columbia Grain Special Fertilizer,	John P. Fisher, Douglassville,
	THE CONSUMERS' CHEMICAL CORPORATION, NEW YORK, N. Y.	
5432	Consumers' Complete Compound,	F. L. Thompson, Shultzville,
5279	Consumers' Pure-Sure Plant Food,	Amandus W. Woodring, Schencksville,

FERTILIZERS—Continued.

	NITROGEN.		PHOSPHORIC ACID.						POTASH.			
			Total.		Available.		Insoluble.					
Moisture.	Found.	Guaranteed.	Found.	Guaranteed.	Found.	Guaranteed.	Found.	Guaranteed.	Found.	Guaranteed.	Selling price per ton at place of selection.	Chemist's number.
%	%	%	%	%	%	%	%	%	%	%	$	
4.90	1.14	0.82	8.06	7.50	7.00	7.00	1.06	0.50	1.11	1.00	37 00	4898
4.19	1.00	0.82	8.05	7.50	7.22	7.00	0.83	0.50	0.95	1.00	35 00	5339
4.69	1.20	0.82	8.74	7.50	7.04	7.00	1.70	0.50	0.97	1.00	40 00	5652
7.21	1.86	1.65	9.69	8.50	8.31	8.50	1.38	--------	†1.43	1.00	43 00	5140
3.36	1.44	0.82	11.05	8.00	8.03	8.00	3.02	--------	1.05	1.00	--------	5656
8.35	1.16	0.82	9.10	8.00	8.33	8.00	0.77	--------	1.09	1.00	35 00	4909
6.55	*3.88	4.12	10.20	8.00	8.25	8.00	1.95	--------	†1.26	1.00	44 00	5630
6.87	2.82	2.88	12.65	10.00	10.62	10.00	2.03	--------	†1.34	1.00	41 00	5632
9.31	1.72	1.65	12.16	11.00	10.65	10.00	1.51	1.00	†1.22	1.00	46 00	5487
7.13	1.23	0.82	11.43	11.00	10.28	10.00	1.15	1.00	†1.14	1.00	25 00	5441
3.58	1.08	0.82	11.68	11.00	10.12	10.00	1.56	1.00	*0.65	1.00	35 00	5227
6.06	1.04	1.04	10.03	--------	8.86	8.00	1.17	--------	0.93	1.00	37 50	5177
4.01	0.65	0.41	9.83	--------	8.87	8.00	0.96	--------	0.54	0.50	28 50	5610
6.54	1.41	1.23	11.56	11.00	10.14	10.00	1.42	1.00	†1.05	1.00	42 00	5224
6.52	2.53	2.47	10.91	10.00	9.67	9.00	1.24	1.00	†1.20	1.00	56 00	5556
7.19	1.13	0.82	9.17	9.00	8.09	8.00	1.08	1.00	†0.97	1.00	35 00	5415
7.37	1.21	0.82	11.35	11.00	9.93	10.00	1.42	1.00	†0.95	1.00	38 00	5157
4.58	1.25	0.82	11.42	11.00	10.25	10.00	1.17	1.00	0.93	1.00	37 25	5658
7.52	1.23	0.82	11.67	11.00	10.39	10.00	1.28	1.00	†0.95	1.00	42 00	5557
4.82	1.01	0.82	10.41	8.50	8.64	8.00	1.77	0.50	†1.90	2.00	40 00	5078
2.76	2.35	1.65	10.59	9.00	9.14	8.00	1.45	1.00	†2.83	2.00	58 00	5432
5.40	1.13	0.82	10.59	9.00	10.00	8.00	0.59	1.00	†1.13	1.00	33 75	5279

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*Deficient.
†No. 5140 as muriate, 0.80%; as sulphate, 0 63%.
†No. 5630 as muriate, 0.70%; as sulphate, 0.56%.
†No. 5632 as sulphate, 1.34%.
†No. 5487 as muriate, 0.60%; as sulphate, 0.62%.
†No. 5441 as muriate, 0.40%; as sulphate, 0.74%.
†No. 5224 as sulphate, 1.05%.
†No. 5556 as muriate, 0.90%; as sulphate, 0.30%.
†No. 5415 as muriate, 0.60%; as sulphate, 0.37%.
†No. 5157 as muriate, 0.65%; as sulphate, 0.30%.
†No. 5557 as sulphate, 0.95%.
†No. 5078 as sulphate, 1.90%.
†No. 5432 as muriate, 0.65%; as sulphate, 2.18%.
†No. 5279 as sulphate, 1.13%.

TABLE I.—COMPLETE

Chemist's number.	Name of Manufacturer and Brand.	Sample Taken From—
	AMOS EBY & CO., LEAMAN PLACE, PA.	
5106	Farmers Mixture,	Clayton Rauck, Leaman Place,
	EUREKA CHEMICAL COMPANY, BALTOMORE, MD.	
5593	Eureka Fish and Potash,	D. J. Beitzel, Mechanicsburg,
4933	Eureka Fish and Potash,	Milton Catherman, Mifflinburg,
5592	Eureka Grain and Grass,	D. J. Beitzel, Mechanicsburg,
5526	Eureka Grain and Grass,	E. P. Dietz, York,
5020	Eureka Grain and Grass,	N. E. Gobrecht & Brother, Hanover,
	GRIFFITH & BOYD COMPANY, BALTIMORE, MD.	
5406	Ammoniated Bone Phosphate,	Adam Krug, Allenwood,
4945	Cereal Plant Food,	Adam Krug, Allenwood,
5037	Farmers Potato and Tomato,	Ezra Groff, Bareville,
5559	Fish, Bone and Potash,	L. & F. Holburg, Etna,
4937	Harvest Queen Phosphate,	C. G. Kleckner, Millmont,
5508	Peerless Fertilizer,	Arthur A. Geiger, Joanna,
5062	Special Royal Guano,	John I. Clay, Palmyra,
5325	Valley Fertilizer,	Wm. Chamberlain, Christiana,
	S. M. HESS & BROTHER, INC., SUBSIDIARY OF THE AMERICAN AGRICULTURAL CHEMICAL CO., PHILADELPHIA, PA.	
5572	Farmers General Fertilizer, 1916,	J. H. Shenk, Linglestown,
5414	Keystone Phosphate,	C. W. Book & Son, Port Royal,
5255	Keystone Phosphate,	Frank Fritz, Lehighton,
5141	Keystone Phosphate,	W. W. Shenemen, Anselma,
5573	Wheat and Grass Manure, 1916,	J. H. Shenk, Linglestown,
	HUBBARD FERTILIZER COMPANY, BALTIMORE, MD.	
5076	Hubbard's Farmers' I. X. L.,	J. Swope & Son, Myerstown,
	M. P. HUBBARD COMPANY, INC. BALTIMORE, MD.	
5093	Hubbard's Big Jim,	A. L. Herr & Bro., Quarryville,
4920	Hubbard's Good and Cheap,	D. Wagner Geiss, Bellefonte,
	KEYSTONE BONE FERTILIZER COMPANY, PHILADELPHIA, PA.	
5274	Keystone Grain and Grass Manure,	Charles Ebner, Easton,
5506	Keystone Grain and Grass Manure,	A. E. Trexler's Sons, Trexler,
	KEYSTONE GRANGE EXCHANGE, MANSFIELD, PA.	
5164	Granger's Best Mixture,	M. Getty, Orangeville,

FERTILIZERS—Continued.

Moisture.	NITROGEN.		PHOSPHORIC ACID.						POTASH.		Selling price per ton at place of selection.	Chemist's number.
			Total.		Available.		Insoluble.					
	Found.	Guaranteed.	Found.	Guaranteed.	Found.	Guaranteed.	Found.	Guaranteed.	Found.	Guaranteed.		
%	%	%	%	%	%	%	%	%	%	%	$	
6.95	0.78	0.41	7.58	7.00	6.28	6.00	1.30	1.00	0.92	0.50	26 50	5106
2.97	0.68	0.41	10.15	8.50	9.13	8.00	1.02	0.50	†0.41	0.25	28 50	5593
8.52	0.58	0.41	10.41	8.50	9.19	8.00	1.21	0.50	0.38	0.25	29 50	4933
5.79	1.05	0.82	8.88	7.50	7.92	7.00	0.96	0.50	0.74	0.50	33 00	5592
7.23	1.12	0.82	8.61	7.50	7.45	7.00	1.16	0.50	0.80	0.50	--------	5526
7.83	1.51	0.82	10.38	7.50	9.46	7.00	0.92	0.50	0.72	0.50	31 35	5020
4.61	2.14	1.65	11.03	9.00	8.57	8.00	2.46	1.00	*†0.72	1.00	--------	5406
8.38	0.91	0.85	10.84	9.00	9.61	8.00	1.20	1.00	†0.90	1.00	--------	4945
6.92	1.50	1.25	11.41	9.00	8.86	8.00	2.55	1.00	†1.21	1.00	38 00	5037
9.35	*1.23	1.50	9.06	8.00	8.23	7.00	0.80	1.00	*†0.76	1.00	44 00	5559
8.16	1.17	0.85	10.50	10.00	9.24	9.00	1.26	1.00	†1.02	1.00	25 50	4937
3.77	0.88	0.41	9.31	9.00	8.00	8.00	1.31	1.00	†1.16	1.00	--------	5508
9.07	1.05	0.85	10.84	9.00	10.01	8.00	0.83	1.00	*†0.79	1.00	-------	5062
9.40	0.94	0.60	10.04	9.00	9.30	8.00	0.74	1.00	†1.08	1.00	34 00	5325
6.06	1.18	0.82	10.83	11.00	*9.61	10.00	1.19	1.00	†1.13	1.00	36 50	5572
5.97	1.34	0.82	9.78	9.00	8.47	8.00	1.31	1.00	†0.97	1.00	-------	5414
5.89	1.15	0.82	9.63	9.00	8.13	8.00	1.53	1.00	0.82	1.00	38 50	5255
5.78	1.03	0.82	8.62	9.00	8.01	8.00	0.61	1.00	†1.09	1.00	31 50	5141
4.88	1.34	0.82	10.74	10.00	10.13	9.00	0.61	1.00	†1.01	1.00	35 50	5573
9.03	1.82	1.61	9.44	9.00	8.75	8.00	0.69	1.00	*1.76	2.00	50 00	5076
5.32	0.50	0.42	9.13	9.00	8.49	8.00	0.64	1.00	†0.89	1.00	30 00	5093
7.64	1.23	0.83	9.81	9.00	8.62	8.00	1.19	1.00	†1.07	1.00	36 00	4920
3.58	1.43	0.82	10.38	8.00	9.22	7.00	1.16	1.00	*0.62	1.00	34 00	5274
6.00	1.30	0.82	9.76	8.00	7.68	7.00	2.08	1.00	0.81	1.00	34 00	5506
6.95	1.91	1.65	10.08	8.00	8.84	8.00	1.24	-------	1.86	2.00	41 60	5164

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*Deficient.
†No. 5593 as sulphate, 0.41%.
†No. 5406 as muriate, 0.50%; as sulphate, 0.22%.
†No. 4945 as sulphate, 0.90%.
†No. 5037 as sulphate, 1.21%.
†No. 5559 as sulphate, 0.76%.
†No. 4937 as sulphate, 1.02%.
†No. 5508 as muriate, 0.40%; as sulphate, 0.76%.
†No. 5062 as sulphate, 0.79%.
†No. 5325 as muriate, 0.40%; as sulphate, 0.68%.
†No. 5572 as muriate, 0.30%; as sulphate, 0.83%.
†No. 5414 as sulphate, 0.97%.
†No. 5141 as sulphate, 1.09%.
†No. 5573 as sulphate, 1.01%.
†No. 5093 as sulphate, 0.89%.
†No. 4920 as sulphate, 1.07%.

TABLE I.—COMPLETE

Chemist's number.	Name of Manufacturer and Brand.	Sample Taken From—
	KOLLER FERTILIZER CO., SEITZLAND, PA.	
5547	Koller's Ammoniated Phosphate,	Charles A. Diehl, New Freedom,
5535	Koller's Ammoniated Phosphate,	Summit Lumber Co., New Freedom,
	LEBANON FERTILIZER WORKS, LEBANON, PA.	
5261	Levan's Royal Potash Compound Fertilizer,	Hegins Grange, Hegins,
	LISTER'S AGRICULTURAL CHEMICAL WORKS, NEWARK, N. J.	
5119	Lister's Ammoniated Dissolved Superphosphate, 1916.	W. E. Ervin, Somerton,
5623	Lister's Corn and Potato Fertilizer, 1916,	T. R. Varcoe, Waymark,
5003	Lister's Golden Sheaf, 1916,	W. N. Schriver, Dillsburg,
4931	Lister's Golden Sheaf, 1916,	Cleve Ungart, Spring Mills,
5241	Lister's Harvest Queen Phosphate, 1916,	E. J. Hull, Olyphant,
5103	Lister's Harvest Queen Phosphate, 1916,	Elias Witmer, Lampeter,
5245	Lister's Potato Manure, 1916,	J. Vansickler, Vardon,
5275	Lister's Special Crop Producer, 1916,	Jacob Bachman, Bethlehem,
5513	Lister's Squirrel Brand Fertilizer, 1916,	B. B. Fox, Lyons Station,
5625	Lister's Success Fertilizer, 1916,	T. J. Varcoe, Waymark,
	THE MAPES FORMULA AND PERUVIAN GUANO COMPANY, NEW YORK, N. Y.	
5379	Mapes General Special (1916 Brand),	Jos. K. Shultz, Washington Borough,
5631	Mapes Tobacco Starter Improved,	J. W. Scovill, Towanda,
	THE MILLER FERTILIZER COMPANY, BALTIMORE, MD.	
5328	Ammoniated,	Miller T. Harkins, Hickory Hill,
5647	Club Brand,	M. B. Hacker, Lincoln,
5585	Harvest Queen,	Chas. S. Brunner, Bloomfield,
5327	Harvest Queen,	Miller T. Harkins, Hickory Hill,
4897	Harvest Queen,	W. H. Muth & Co., Lititz,
5046	No. 1 Hustler Phosphate,	M. B. Hacker, Lincoln,
5463	No. 1 Hustler Phosphate,	Muth Brothers, Elizabethtown,
5452	No. 1 Hustler Phosphate,	M. S. Newswanger & Bro., Goodville,
5412	Quarter Mixture,	A. S. Raffensbarger, East Waterford,
5048	Special Tobacco Grower,	M. B. Hacker, Lincoln,
	NASSAU FERTILIZER COMPANY, NEW YORK, N. Y.	
5444	General Favorite Fish Mixture,	A. A. Chamberlain, Gouldsboro,
5443	Wheat and Grass Grower, 1916,	A. A. Chamberlain, Gouldsboro,

FERTILIZERS—Continued.

	NITROGEN.		PHOSPHORIC ACID.						POTASH.			
			Total.		Available.		Insoluble.					
Moisture.	Found.	Guaranteed.	Found.	Guaranteed.	Found.	Guaranteed.	Found.	Guaranteed.	Found.	Guaranteed.	Selling price per ton at place of selection.	Chemist's number.
%	%	%	%	%	%	%	%	%	%	%	$	
8.50	1.12	0.82	9.91	8.50	*7.73	8.00	2.18	0.50	1.01	1.00	32 50	5547
6.80	0.96	0.82	10.84	8.50	8.95	8.00	1.39	0.50	0.85	1.00	32 50	5535
6.49	1.53	1.65	10.20	9.00	9.00	8.00	1.20	1.00	†1.82	2.00	--------	5261
10.01	2.16	2.06	10.04	9.00	8.29	8.00	1.75	1.00	†1.23	1.00	50 00	5119
6.88	2.23	2.06	9.39	9.00	8.47	8.00	0.92	1.00	†1.00	1.00	47 00	5623
5.02	0.75	0.41	9.54	9.00	8.84	8.00	0.70	1.00	†0.93	1.00	32 50	5006
8.03	0.70	0.41	10.45	9.00	9.05	8.00	1.40	1.00	*†0.62	1.00	32 25	4931
8.59	1.59	1.23	12.35	11.00	10.00	10.00	2.35	1.00	†1.15	1.00	60 00	5241
10.75	1.51	1.23	12.99	11.00	10.94	10.00	2.05	1.00	†1.36	1.00	37 00	5103
8.82	4.10	4.11	11.19	9.00	9.12	8.00	2.07	1.00	†1.27	1.00	56 00	5245
8.56	1.18	0.82	10.10	9.00	8.84	8.00	1.26	1.00	†1.15	1.00	33 50	5275
9.37	1.25	0.82	10.15	9.00	8.99	8.00	1.16	1.00	†1.30	1.00	--------	5513
6.60	1.64	1.23	12.96	11.00	11.20	10.00	1.76	1.00	†1.18	1.00	41 00	5625
7.64	*5.20	5.76	10.46	8.00	6.53	6.00	3.93	2.00	†1.11	1.00	71 00	5379
6.46	4.33	4.12	9.49	8.00	*4.71	6.00	4.78	2.00	†1.24	1.00	63 00	5661
5.91	1.36	1.44	7.72	8.50	*7.13	8.00	0.59	0.50	0.50	0.50	37 00	5328
5.55	0.79	0.41	9.63	8.50	8.77	8.00	0.89	0.50	0.74	0.50	32 00	5047
7.39	1.05	1.03	8.01	8.50	*7.73	8.00	0.28	0.50	1.07	0.75	37 00	5585
5.68	1.03	1.03	8.05	8.50	*7.76	8.00	0.29	0.50	0.84	0.75	36 00	5327
12.31	1.14	1.03	8.33	8.50	*7.65	8.00	0.68	0.50	1.27	0.75	35 00	4897
4.64	0.91	0.82	9.17	8.50	8.49	8.00	0.68	0.50	†1.04	1.00	36 00	5046
2.63	1.18	0.82	9.01	8.50	*7.70	8.00	1.31	0.50	†1.36	1.00	36 00	5466
5.44	0.88	0.82	9.13	8.50	8.35	8.00	0.78	0.50	1.07	1.00	36 75	5452
4.52	0.63	0.21	10.17	9.50	8.96	9.00	1.21	0.50	0.39	0.25	30 00	5412
6.78	1.79	1.65	7.91	7.50	7.27	7.00	0.64	0.50	1.11	1.00	44 00	5048
6.93	1.69	1.23	12.08	11.00	10.51	10.00	1.57	1.00	1.18	1.00	29 50	5444
5.70	1.40	0.82	9.62	9.00	8.29	8.00	1.33	1.00	†1.16	1.00	35 00	5443

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*Deficient.
†No. 5261 as muriate, 0.55%; as sulphate, 1.27%.
†No. 5119 as muriate, 0.75%; as sulphate, 0.48%.
†No. 5623 as sulphate, 1.00%.
†No. 5006 as sulphate, 0.93%.
†No. 4931 as muriate, 0.39%; as sulphate, 0 23%.
†No. 5241 as muriate, 0.60%; as sulphate, 0.55%.
†No. 5103 as muriate, 0.55%; as sulphate, 0.81%.
†No. 5245 as muriate, 0.50%; as sulphate, 0.77%.
†No. 5275 as muriate, 0.70%; as sulphate, 0.45%.
†No. 5513 as muriate, 0.60%; as sulphate, 0.70%.
†No. 5625 as sulphate, 1.18%.
†No. 5379 as muriate, 0.55%; as sulphate, 0.56%.
†No. 5661 as sulphate, 1.24%.
†No. 5046 as sulphate, 1.04%.
†No. 5466 as muriate, 1.05%; as sulphate, 0.31%.
†No. 5443 as muriate, 0.45%; as sulphate, 0.71%.

TABLE I.—COMPLETE

Chemist's number.	Name of Manufacturer and Brand.	Sample Taken From—
	NITRATE AGENCIES COMPANY, NEW YORK, N. Y.	
5540	N. A. C. Brand 1-8-1 Mixture,	Anderson Brothers, New Park,
	G. OBER & SONS COMPANY, BALTIMORE, MD.	
5347	Ober's Farmers Mixture,	W. J. Munholland, Mortonville,
5300	Ober's Independent Ammoniated Phosphate,	V. A. Stufft, Imler,
5066	Ober's Soluble Ammoniated Superphosphate of Lime.	A. M. Brandt, Campbelltown,
	PATAPSCO GUANO COMPANY, SUBSIDIARY OF THE AMERICAN AGRICULTURAL CHEMICAL COMPANY, BALTIMORE, MD.	
5633	Coon Brand Guano, 1916,	Turn & Cook, Bushkill,
5238	Grange Mixture, 1916,	T. F. Leonard, Scranton,
5210	Grange Mixture, 1916,	Oscar Van Busker, Bald Mount,
5211	Patapsco Columbian Guano for Truck, Potatoes and Tobacco, 1916.	Oscar Van Busker, Bald Mount,
5213	Patapsco Planters Delight, 1917,	Oscar Van Busker, Bald Mount,
5454	Patapsco Special Potato Manure, 1916,	M. S. Newswanger, & Bro., Goodville,
	PIEDMONT MT. AIRY GUANO COMPANY, BALTIMORE, MD.	
5470	Levering's Excelsior,	John N. Mumma, Marietta,
5015	Levering's Excelsior,	Milton Neiman, Dover,
5521	Levering's Excelsior,	W. B. Tobias, Marksville,
5284	Levering's Harvest Queen,	Edward F. Layton, Slatington,
	RASIN-MONUMENTAL COMPANY, BALTIMORE, MD.	
5405	Wm. Penn Crop Grower,	A. R. Gehman, New Britain,
	READING BONE FERTILIZER COMPANY, READING, PA.	
5070	Farmers Tankage and Potash for Corn, Grain and Grass.	S. M. Kline, Lebanon,
5407	Farmers Tankage and Potash for Corn, Grain and Grass.	Harry Miller, Mifflinburg,
	READING CHEMICAL COMPANY, READING, PA.	
5063	Complete Fertilizer,	E. E. Meyer, Fredericksburg,
4922	Complete Fertilizer,	J. S. Waite & Co., Bellefonte,

FERTILIZERS—Continued.

	NITROGEN.		PHOSPHORIC ACID.						POTASH.			
			Total.		Available.		Insoluble.					
Moisture.	Found.	Guaranteed.	Found.	Guaranteed.	Found.	Guaranteed.	Found.	Guaranteed.	Found.	Guaranteed.	Selling price per ton at place of selection.	Chemist's number.
%	%	%	%	%	%	%	%	%	%	%	$	
4.95	1.60	0.82	9.82	9.00	8.63	8.00	1.19	1.00	†1.47	1.00	37 00	5540
7.00	1.06	0.82	10.72	10.00	9.37	9.00	1.35	1.00	†2.02	2.00	42 00	5347
5.53	1.11	0.82	9.98	9.00	9.15	8.00	0.83	1.00	1.10	1.00	36 00	5300
5.50	1.78	1.65	10.36	9.00	9.98	8.00	0.38	1.00	†1.81	2.00	49 00	5066
5.22	1.16	0.82	11.17	10.00	9.38	9.00	1.79	1.00	†1.01	1.00	36 90	5633
7.21	1.87	1.65	11.39	10.00	9.04	9.00	2.35	1.00	†1.11	1.00	70 00	5238
7.50	2.41	1.65	11.81	10.00	9.93	9.00	1.88	1.00	†0.93	1.00	41 00	5210
8.35	2.75	2.47	10.38	10.00	9.07	9.00	1.31	1.00	1.32	1.00	48 00	5211
6.79	1.94	1.65	9.89	9.00	8.58	8.00	1.31	1.00	†2.02	2.00	47 00	5213
6.08	1.90	1.65	10.94	11.00	10.14	10.00	0.80	1.00	†1.24	1.00	40 75	5454
5.10	1.23	0.82	8.97	9.00	*7.73	8.00	1.24	1.00	†1.12	1.00	36 00	5470
2.95	1.08	0.82	9.71	9.00	8.84	8.00	0.87	1.00	†0.83	1.00	--------	5015
3.73	1.05	0.82	9.44	9.00	8.14	8.00	1.30	1.00	1.00	1.00	33 50	5521
5.47	1.10	0.82	9.30	9.00	8.04	8.00	1.26	1.00	2.02	2.00	39 00	5284
5.00	1.22	0.82	8.83	9.00	*7.52	8.00	1.31	1.00	†0.95	1.00	35 00	5405
3.77	1.17	0.82	11.72	11.00	10.52	10.00	1.20	1.00	†0.98	1.00	--------	5070
3.71	1.08	0.82	10.97	11.00	10.08	10.00	0.89	1.00	†1.09	1.00	--------	5407
3.77	0.85	0.82	8.87	9.00	*7.75	8.00	1.12	1.00	*†0.56	1.00	37 00	5063
4.06	1.24	0.82	8.10	9.00	*7.28	8.00	0.82	1.00	†1.30	1.00	28 50	4922

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*Deficient.
†No. 5540 as muriate, 0.90%; as sulphate, 0.57%.
†No. 5347 as muriate, 0.75%; as sulphate, 0.27%.
†No. 5066 as muriate, 1.00%; as sulphate, 0.81%.
†No. 5633 as muriate, 0.60%; as sulphate, 0.41%.
†No. 5238 as muriate, 0.45%; as sulphate, 0.66%.
†No. 5210 as sulphate, 0.93%.
†No. 5213 as muriate, 1.00%; as sulphate, 1.02%.
†No. 5454 as muriate, 0.70%; as sulphate, 0.54%.
†No. 5470 as muriate, 0.75%; as sulphate, 0.37%.
†No. 5015 as sulphate, 0.83%.
†No. 5405 as sulphate, 0.95%.
†No. 5070 as sulphate, 0.98%.
†No. 5407 as sulphate, 1.09%.
†No. 5063 as sulphate, 0.56%.
†No. 4922 as sulphate, 1.30%.

TABLE I.—COMPLETE

Chemist's number.	Name of Manufacturer and Brand.	Sample Taken From—
	F. S. ROYSTER GUANO COMPANY, BALTIMORE, MD.	
5395	Royster's Cuckoo Crop Grower,	Henry S. Beidler, Doylestown,
5615	Royster's Cuckoo Crop Grower,	F. C. Deveny, Forest City,
4961	Royster's Cuckoo Crop Grower,	Wm. H. Walker & Co., Kennett Square,
5394	Royster's Dreadnought Fertilizer,	Henry S. Beidler, Doylestown,
5393	Royster's Wheat, Oats and Barley Fertilizer,	Henry S. Beidler, Doylestown,
	THE SCOTT FERTILIZER COMPANY, ELKTON, MD.	
5114	Scott's Pennsylvania Potato Grower,	C. E. Brackbill, Intercourse,
5116	Scott's Potato and Truck,	C. E. Brackbill, Intercourse,
5113	Scott's Sure Growth Superphosphate,	Reynolds & Kershner, Witmer,
	SUPERIOR GUANO COMPANY, BALTIMORE, MD.	
5543	Pennsylvania Leader,	J. F. Goodling, Loganville,
5641	Pennsylvania Leader,	C. H. Schmucker, Friedens,
	SWIFT & COMPANY, BALTIMORE, MD.	
5039	Swift's Grain Fertilizer,	M. S. Graybill & Son, Bareville,
5462	Swift's Red Steer 2-8-2,	S. G. Brinser, Rheems,
5057	Swift's Reliable Grain Fertilizer,	M. J. Kennedy & Son, Mars,
4949	Swift's Reliable Grain Fertilizer,	Adam Schmehl, North Wales,
	I. P. THOMAS & SON COMPANY, PHILADELPHIA, PA.	
4916	Superior Superphosphate,	Ira Harpster, Warriors Mark,
	THE J. E. TYGERT COMPANY, SUBSIDIARY OF THE AMERICAN AGRICULTURAL CHEMICAL COMPANY, PHILADELPHIA, PA.	
5248	Vegetable and Corn Fertilizer, 1916,	G. E. Miller, Lake Ariel,
	J. & R. WALTER, HANOVER, PA.	
5531	Walter's Crop Grower,	J. & R. Walter, Hanover,
5023	Walter's Crop Grower,	J. & R. Walter, Hanover,
	YORK CHEMICAL WORKS, YORK, PA.	
5604	Dempwolf's Half and Half,	Enos H. Horst, Chambersburg,
5569	Dempwolf's One-Eight-One,	M. D. Ebersole, Middletown,
		Average,

FERTILIZERS—Concluded.

	NITROGEN.		PHOSPHORIC ACID.						POTASH.			
			Total.		Available.		Insoluble.					
Moisture.	Found.	Guaranteed.	Found.	Guaranteed.	Found.	Guaranteed.	Found.	Guaranteed.	Found.	Guaranteed.	Selling price per ton at place of selection.	Chemist's number.
%	%	%	%	%	%	%	%	%	%	%	$	
2.17	1.30	0.82	9.49	8.50	8.27	8.00	1.22	0.50	1.05	1.00	36 00	5395
3.46	1.48	0.82	10.01	8.50	8.20	8.00	1.81	0.50	1.01	1.00	29 50	5615
3.40	0.88	0.82	10.12	8.50	8.87	8.00	1.25	0.50	†0.97	1.00	35 00	4961
3.55	1.60	1.65	9.72	8.50	8.37	8.00	1.35	0.50	†1.90	2.00	51 00	5394
3.43	1.34	0.82	9.86	8.50	8.56	8.00	1.30	0.50	†1.82	2.00	42 00	5393
3.68	1.43	0.82	9.58	10.00	8.07	8.00	1.51	2.00	†2.05	2.00	42 00	5114
2.69	*2.28	2.50	11.21	11.00	10.04	9.00	1.17	2.00	†1.26	1.00	45 00	5116
6.60	1.94	1.65	10.94	10.00	9.14	8.00	1.80	2.00	†1.10	1.00	43 00	5113
2.78	1.05	0.41	10.89	9.00	*7.29	8.00	3.60	1.00	0.47	0.50	29 00	5543
3.75	0.48	0.41	12.73	9.00	10.36	8.00	2.37	1.00	†0.76	0.50	28 00	5641
5.05	0.95	0.82	9.64	8.00	8.45	8.00	1.19	--------	2.29	2.00	40 00	5039
3.42	3.33	1.65	6.16	8.00	*4.97	8.00	1.19	--------	†2.40	2.00	50 00	5462
7.31	1.30	0.82	12.44	8.00	10.15	8.00	1.29	--------	*0.80	1.00	40 00	5057
3.74	0.85	0.82	8.93	8.00	*7.50	8.00	1.43	--------	1.14	1.00	--------	4949
6.24	1.26	0.82	9.41	7.50	7.56	7.00	1.85	0.50	1.10	1.00	33 50	4916
9.35	1.97	1.65	11.95	11.00	10.47	10.00	1.48	1.00	†1.05	1.00	47 00	5248
‡1.61	‡0.30	0.17	*‡0.29	0.42	--------	--------	--------	--------	‡0.12	0.12	‡10 00	5531
‡6.32	‡0.30	0.17	‡0.36	0.42	--------	--------	--------	--------	†‡0.25	0.12	‡10.00	5023
4.75	0.82	0.82	8.64	--------	7.36	7.00	1.28	--------	†0.89	1.00	28 50	5604
7.70	0.95	0.82	9.87	--------	9.14	8.00	0.73	--------	†1.13	1.00	35 00	5569
5.97	1.44	------	10.00	--------	8.67	--------	1.33	--------	1.17	--------	38 99	------

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*Deficient.
†No. 4961 as sulphate, 0.97%.
†No. 5394 as muriate, 0.60%; as sulphate, 1.30%.
†No. 5393 as sulphate, 1.82%.
†No. 5114 as muriate, 0.65%; as sulphate, 1.40%.
†No. 5116 as sulphate, 1.26%.
†No. 5113 as sulphate, 1.10%.
†No. 5641 as muriate, 0.50%; as sulphate, 0.26%.
†No. 5462 as muriate, 0.50%; as sulphate, 1.90%.
†No. 5248 as muriate, 0.55%; as sulphate, 0.50%.
†No. 5023 as sulphate, 0.25%.
†No. 5604 as sulphate, 0.89%.
†No. 5569 as muriate, 0.20%; as sulphate, 0.93%.
‡Excluded from average.

TABLE NO. II.—NITROGEN AND

Including Dissolved Bones

Chemist's number.	Name of Manufacturer and Brand.	Sample Taken From—
	THE AMERICAN AGRICULTURAL CHEMICAL COMPANY, NEW YORK, N. Y.	
5272	Ammoniated Fertilizer A,	William Best, Mecda,
5199	Ammoniated Fertilizer A,	D. A. Hankey, Parnassus,
5351	Ammoniated Fertilizer A,	J. P. Herman, Gordonville,
5352	Ammoniated Fertilizer A. A.,	J. P. Herman, Gordonville,
5396	Ammoniated Fertilizer A. A.,	Wilson M. Jones, Doylestown,
5216	Ammoniated Fertilizer A. A.,	B. Pallman, Factoryville,
5485	Ammoniated Fertilizer A. A. A.,	B. H. Throop, Elmhurst,
5163	1-8-0 Ammoniated Superphosphate,	F. W. Hagenhuch, Danville,
5299	Bradley's Economy Fertilizer,	James O. Dewalt, Bethlehem,
5632	Bradley's Special Superior Compound Revised.	Wysox Produce Co., Wysox,
5250	Crocker's Special Grain Grower,	Clark Deats, Clark Summit,
5052	Soluble Grain Mixture,	John Greenleaf, Quarryville,
4957	Soluble Grain Mixture,	C. A. Wamsley, Phoenixville,
5503	Southern Fertilizing Co. Branch Coot Brand Fertilizer.	Wm. H. Siegfried, Kempton,
5504	Southern Fertilizing Co. Branch Mogul Fertilizer.	Wm. H. Siegfried, Kempton,
5181	Susquehanna Arrow Brand,	Z. J. Peters, Guernsey,
	AMERICAN FERTILIZING COMPANY, BALTIMORE, MD.	
5186	American Eagle Superphosphate,	A. D. Brown, East Berlin,
5096	American Eagle Superphosphate,	John Byer, Quarryville,
5426	American Eagle Superphosphate,	J. B. Rohrer, Port Trevorton,
4912	American Fish and Bone Special,	Lancaster County Farmers Association, Manheim.
4913	American Special Fish Guano,	Lancaster County Farmers Association, Manheim.
	ARMOUR FERTILIZER WORKS, INC., BALTIMORE, MD.	
5523	Armour's 1-10-0,	A. M. Grove & Co., Muddy Creek Forks,
4982	Armour's 1-10-0,	Nazareth Coal and Lumber Co., Nazareth,
5373	Armour's 1-10-0,	S. H. Snavely, Manheim,
5574	Armour's 1.50-9-0,	S. H. Brinser, Middletown,
4899	Armour's 2-10-0,	Long & Company, Lititz,
5372	Armour's 2-10-0,	S. H. Snavely, Manheim,
	BALTIMORE FERTILIZER COMPANY, BALTIMORE, MD.	
5173	Old Honesty,	J. N. Lightner, Gettysburg,
	BAUGH & SONS COMPANY, PHILADELPHIA, PA.	
5583	Baugh's Ammoniated Superphosphate,	B. F. Horting, Newport,
5139	Baugh's Half and Half Mixture,	Latshaw Brothers, Anselma,
4969	Baugh's The Old Stand By; Dissolved Animal Base.	W. J. Pratt, Pocopson,
5627	Baugh's The Old Stand By; Dissolved Animal Base.	J. A. Siqune, Cresco,
5124	Baugh's Peninsula Grain Producer,	Howard M. Long, Oxford,
5016	Baugh's Peninsula Grain Producer,	Milton Neiman, Dover,
5603	Baugh's Peninsula Grain Producer,	S. E. Shenk & Sons, Newville,
5045	Baugh's Wheat Fertilizer,	Ephrata Implement Co., Ephrata,
5163	Baugh's Wheat Fertilizer,	H. B. Low & Son, Orangeville,
	THE BERG COMPANY, PHILADELPHIA, PA.	
5566	Berg's Special Bone Manure Without Potash,	John W. Root, Kimberton,
5567	Berg's Special Wheat Grower,	John W. Root, Kimberton,

PHOSPHORIC ACID FERTILIZERS.

and Other Like Products.

Moisture.	NITROGEN.		PHOSPHORIC ACID.						Selling price per ton at place of selection.	Chemist's number.
			Total.		Available.		Insoluble.			
	Found.	Guaranteed.	Found.	Guaranteed.	Found.	Guaranteed.	Found.	Guaranteed.		
%	%	%	%	%	%	%	%	%	$	
5.88	1.29	0.82	11.62	11.00	10.46	10.00	1.16	1.00	28 60	5272
5.92	1.04	0.82	13.09	11.00	11.24	10.00	1.85	1.00	35 00	5199
5.06	1.19	0.82	11.82	11.00	11.08	10.00	0.74	1.00	30 00	5351
6.58	1.76	1.65	11.93	11.00	10.32	10.00	1.61	1.00	35 00	5352
3.24	1.93	1.65	12.59	11.00	11.80	10.00	0.79	1.00	38 00	5396
4.72	1.74	1.65	12.73	11.00	11.31	10.00	1.42	1.00	37 00	5216
3.86	3.02	2.47	12.30	11.00	10.54	10.00	1.76	1.00	23 75	5485
6.95	1.20	0.82	9.50	9.00	8.33	8.00	1.17	1.00	28 50	5166
5.00	1.18	0.82	11.95	11.00	10.13	10.00	1.82	1.00	30 50	5299
6.07	1.84	1.65	12.14	11.00	10.90	10.00	1.24	1.00	40 00	5662
3.50	1.90	1.65	13.05	11.00	10.93	10.00	2.12	1.00	45 00	5250
5.36	1.20	0.82	9.49	9.00	8.60	8.00	0.89	1.00	27 30	5052
2.91	1.18	0.82	9.55	9.00	8.54	8.00	1.01	1.00	35 00	4957
2.52	1.10	0.82	9.31	9.00	8.03	8.00	1.28	1.00	28 50	5503
3.85	1.00	0 82	11.26	11.00	10.07	10.00	1.19	1.00	30 00	5504
6.31	1.06	0.82	9.50	9.00	8.33	8.00	1.17	1.00	30 00	5181
4.91	0.72	0.41	9.76	9.00	8.92	8.00	0.84	1.00	24 00	5186
5.33	0.72	0.41	10.06	9.00	8.81	8.00	1.25	1.00	24 00	5096
1.94	0.76	0.41	9.90	9.00	8.78	8.00	1.12	1.00	--------	5426
8.57	2.19	1.65	13.96	12.00	12.08	11.00	1.88	1.00	39 00	4912
10.87	1.40	0.82	12.35	11.00	10.97	10.00	1.38	1.00	30 00	4913
2.81	1.05	0.82	11.56	10.50	10.23	10.00	1.33	0.50	31 00	5523
6.62	1.50	0.82	11.19	10.50	10.73	10.00	0.46	0.50	30 35	4982
4.62	1.08	0.82	10.68	10.50	10.36	10.00	0.32	0.50	31 25	5378
4.77	1.65	1.23	10.60	9.50	9.29	9.00	1.31	0.50	32 70	5574
4.56	*1.25	1.65	11.79	10.50	10.96	10.00	1.73	0.50	33 00	4899
3.84	2.30	1.65	11.61	10.50	10.35	10.00	1.26	0.50	39 25	5372
4.29	0.90	0.80	9.30	9.00	8.09	8.00	1.21	1.00	28 50	5173
8.40	1.37	1.02	11.56	10.00	10.04	10.00	1.52	--------	31 15	5583
3.44	1.70	1.23	19.34	19.00	*9.82	12.00	9.52	7.00	40 00	5139
9.04	1.81	1.65	12.79	12.00	12.55	12.00	0.24	--------	40 00	4969
7.01	1.94	1.65	12.76	12.00	12.15	12.00	0.61	--------	46 00	5627
6.60	1.10	0.82	9.90	9.00	9.07	9.00	0.83	--------	30 00	5124
4.58	1.45	0.82	9.32	9.00	*8.54	9.00	0.78	--------	31 75	5016
4.31	1.26	0.82	10.40	9.00	9.06	9.00	1.34	--------	31 00	5603
10.15	1.53	1.65	10.65	10.00	*9.49	10.00	1.16	--------	38 00	5045
8.40	1.94	1.65	10.86	10.00	*9.02	10.00	1.84	--------	39 25	5163
4.98	2.43	2.00	11.57	11.00	8.13	7.00	3.44	4.00	42 00	5566
3.55	1.65	1.65	11.82	11.00	8.34	8.00	3.48	3.00	39 00	5567

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*Deficient.

TABLE II.—NITROGEN AND PHOS

Chemist's number.	Name of Manufacturer and Brand.	Sample Taken From—
	D. BLOCHER & COMPANY, BALTIMORE, MD.	
5174	High Grade Phosphate,	F. D. Blocher, Gettysburg,
	BOWKER FERTILIZER COMPANY, SUBSIDIARY OF THE AMERICAN AGRICULTURAL CHEMICAL COMPANY, NEW YORK, N. Y.	
5056	Bowker's Buckwheat Special,	Harmony Cereal Mills, Harmony,
5618	Bowker's Buckwheat Special,	A. C. McClure, Burgettstown,
5549	Bowker's Buckwheat Special,	Peffer & Son, Punxsutawney,
4955	Bowker's Superphosphate with Ammonia 1%.	Martin H. Custer, Skippack,
4954	Bowker's Superphosphate with Ammonia 2%.	Martin H. Custer, Skippack,
5401	Bowker's Superphosphate with Ammonia 2%.	J. Frank Johnson, Doylestown,
5477	Bowker's Superphosphate with Ammonia 3%.	J. Blakeler, Presceme,
5214	Bowker's Superphosphate with Ammonia, 4%.	B. J. Gardner, Factoryville,
5229	Bowker's Superphosphate with Ammonia, 5%.	Loftus Smith, Elmhurst,
	THE CENTRAL CHEMICAL COMPANY, THOMAS FERTILIZER WORKS, HAGERSTOWN, MD.	
5416	C C C Fish Bone Compound,	John P. Dunn, McCalisterville,
5344	C C C Special Bone Mixture,	Colebrook Farm, Whitford,
5263	C C C Superior,	E. E. Hepler, Hepler,
	THE CHESAPEAKE CHEMICAL COMPANY, BALTIMORE, MD.	
5595	C. C. Buyer's Favorite,	M. C. Dietz & Son, Mechanicsburg,
5539	C. C. Buyer's Favorite,	Charles Trout, Stewartstown,
5596	C. C. Gem Phosphate,	M. C. Dietz & Son, Mechanicsburg,
5594	C. C. Grangers' Phosphate,	M. C. Dietz & Son, Mechanicsburg,
	COE-MORTIMER COMPANY, SUBSIDIARY OF AMERICAN AGRICULTURAL CHEMICAL COMPANY, NEW YORK, N. Y.	
5197	E. Frank Coe's XXV Ammoniated Phosphate, 1916.	George J. New Estate, Blairsville,
5563	E. Frank Coe's XXV Ammoniated Phosphate, 1916.	John W. Root, Kimberton,
4927	E. Frank Coe's XXV Ammoniated Phosphate, 1916.	J. H. Ross, Linden Hall,
5565	E. Frank Coe's Famous Prize Brand Grain and Grass Fertilizer, 1916.	John W. Root, Kimberton,
5267	E. Frank Coe's Grain Grower, 1916,	A. T. Brown, Nescopeck,
5196	E. Frank Coe's Grain Grower, 1916,	George J. New Estate, Blairsville,
5644	E. Frank Coe's Grain Grower, 1916,	Perry & Henderson, Connellsville,
5564	E. Frank Coe's Original Ammoniated Dissolved Phosphate, 1916.	John W. Root, Kimberton,
5142	E. Frank Coe's Original Ammoniated Dissolved Phosphate, 1916.	Gilbert Smedley, Byers,
5223	E. Frank Coe's Prolific Crop Producer, 1916,	Jacob Burkhart, Elmhurst,
	COLUMBIA GUANO COMPANY, BALTIMORE, MD.	
5077	Columbia Grain and Grass Special,	John P. Fisher, Douglassville,
5165	Columbia Reflex Ammoniated Superphosphate.	Whitenight & Kschinka, Bloomsburg,

PHORIC ACID FERTILIZERS—Continued.

Moisture.	NITROGEN.		PHOSPHORIC ACID.						Selling price per ton at place of selection.	Chemist's number.
			Total.		Available.		Insoluble.			
	Found.	Guaranteed.	Found.	Guaranteed.	Found.	Guaranteed.	Found.	Guaranteed.		
%	%	%	%	%	%	%	%	%	$	
9.23	1.87	1.65	11.90	----------	10.78	10.00	1.12	--------	39 00	5174
3.26	0.70	0.41	9.21	9.00	8.02	8.00	1.19	1.00	24 50	5056
4.00	0.73	0.41	9.38	9.00	8.16	8.00	1.22	1.00	31 00	5648
4.31	0.79	0.41	9.50	9.00	8.57	8.00	0.93	1.00	28 00	5549
4.55	1.32	0.82	12.68	11.00	10.91	10.00	1.77	1.00	33 00	4955
3.97	1.90	1.65	10.38	11.00	*9.74	10.00	0.64	1.00	41 00	4954
1.88	2.26	1.65	12.28	11.00	11.23	10.00	1.05	1.00	35 00	5401
9.67	2.89	2.47	12.02	11.00	10.85	10.00	1.17	1.00	43 00	5477
7.00	3.38	3.29	12.00	11.00	9.84	10.00	2.16	1.00	48 00	5214
8.41	4.05	4.11	9.68	9.00	8.00	8.00	1.68	1.00	46 00	5229
9.11	1.59	1.65	10.45	----------	10.22	10.00	0.23	--------	35 10	5344
7.55	1.10	1.25	11.35	----------	10.02	10.00	1.33	--------	32 55	5416
5.76	0.85	0.82	13.67	----------	12.18	12.00	1.49	--------	--------	5263
5.53	1.06	0.82	12.90	11.00	10.27	10.00	2.63	1.00	29 25	5595
3.47	1.05	0.82	12.36	11.00	10.19	10.00	2.17	1.00	--------	5539
5.68	0.99	0.82	9.89	9.00	*7.40	8.00	2.49	1.00	27 75	5596
6.03	1.80	1.64	11.90	11.00	11.63	10.00	0.27	1.00	36 85	5594
3.20	1.09	0.82	12.04	11.00	10.20	10.00	1.84	1.00	30 00	5197
6.15	1.08	0.82	11.95	11.00	10.00	10.00	1.95	1.00	34 00	5563
7.05	1.35	0.82	12.12	11.00	10.82	10.00	1.30	1.00	--------	4927
5.10	1.19	0.82	9.87	9.00	8.03	8.00	1.84	1.00	32 00	5565
7.32	1.58	1.65	9.21	9.00	8.06	8.00	1.15	1.00	--------	5267
3.11	1.81	1.65	10.28	9.00	8.89	8.00	1.39	1.00	35 00	5196
7.27	1.90	1.65	9.06	9.00	8.23	8.00	0.83	1.00	39 50	5644
6.51	1.73	1.65	12.36	11.00	10.06	10.00	2.30	1.00	42 00	5564
3.85	2.02	1.65	10.32	11.00	9.82	10.00	0.50	1.00	36 00	5142
10.17	*3.07	3.29	12.63	11.00	10.53	10.00	2.10	1.00	30 00	5223
3.86	1.18	0.82	8.90	8.50	8.11	8.00	0.79	0.50	28 00	5077
2.77	1.11	0.82	12.05	10.50	10.70	10.00	1.35	0.50	31 00	5165

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*Deficient.

TABLE II.—NITROGEN AND PHOS

Chemist's number.	Name of Manufacturer and Brand.	Sample Taken From—
	THE CONSUMERS CHEMICAL CORPORATION, NEW YORK, N. Y.	
5136	Consumers All Crop Compound (without Potash).	A. K. Kulp, Pottstown,
5553	Consumers All Crop Compound (without Potash).	Schettig Brothers, Ebensburg,
5280	Consumers All Crop Compound (without Potash).	Amandus W. Woodring, Schencksville,
5137	Consumers Pure Sure Ammoniated Bone Phosphate.	A. K. Kulp, Pottstown,
5243	Consumers Pure Sure Ammoniated Bone Phosphate.	L. T. Stipp, Wimmers,
	JOSIAH COPE & COMPANKY, SUBSIDIARY OF THE AMERICAN AGRICULTURAL CHEMICAL CO., BALTIMORE, MD.	
5108	Ammoniated Fertilizer A,	Christian Habaker, Roherstown,
5109	Ammoniated Fertilizer A A,	Christian Habaker, Roherstown,
5135	Ammoniated Fertilizer A A,	A. H. Keeley & Son, Schencksville,
5345	Fish Phosphate,	W. G. Passmore, Embreeville,
	THE JAS. G. DOWNWARD COMPANY, COATESVILLE, PA.	
5391	Ammoniated Phosphate,	R. R. Peterman, Doylestown,
5400	Ammoniated Phosphate,	R. R. Peterman, Doylestown,
5128	Ammoniated Phosphate,	Isaac Tomlinson, Huntingdon Valley,
5053	Potato, Corn and Grain Phosphate,	John Greenleaf, Quarryville,
5127	Potato, Corn and Grain Phosphate,	Isaac Tomlinson, Huntingdon Valley,
	BUBOIS FERTILIZER WORKS, INC. DUBOIS, PA.	
5664	DuBois General Crop Grower,	L. W. Smiley, DuBois,
	THE DUNGAN FERTILIZER COMPANY, DOYLESTOWN, PA.	
5399	Farmers Favorite,	E. S. Eastbarn, Doylestown,
	EASTERN GUANO COMPANY, NEW YORK, N. Y.	
5608	Eastern Bone Compound,	Greencastle Elevator Co., Greencastle,
	AMOS EBY & CO., LEAMAN PLACE, PA.	
5105	Pequea Ammoniated,	Clayton Rauck, Leaman Place,
	EUREKA CHEMICAL COMPANY, BALTIMORE, MD.	
5428	Eureka Dissolved Animal Base,	A. W. Hedrick, Beavertown,
5007	Eureka Dissolved Animal Base,	Levi Kaltrider, Red Lion,
5317	Eureka Economy,	W. H. Nesbit, McConnellsburg,
	THE EUREKA FERTILIZING CO., LANCASTER, PA.	
5101	No. 10 Corn and Oats,	Quarryville Farmers Association, Quarryville.
	THE FARMERS FERTILIZER WORKS, ELIZABETHTOWN, PA.	
5600	Farmers Crop Grower,	Earl Hertzler, Carlisle,
5590	Farmers Crop Grower,	Addison Landis, Middletown,
5029	Farmers Crop Grower,	Harry Newcomer, Mt. Joy,
5582	Farmers Golden Sheaf,	B. F. Horting, Newport,
5588	Farmers Golden Sheaf,	Addison Landis, Middletown,
5030	Farmers Golden Sheaf,	Harry Newcomer, Mt. Joy,
5581	Grain and Grass Special,	B. F. Horting, Newport,
5589	Grain and Grass Special,	Addison Landis, Middletown,
5028	Grain and Grass Special,	Harry Newcomer, Mt. Joy,

PHORIC ACID FERTILIZERS—Continued.

	NITROGEN.		PHOSPHORIC ACID.							
			Total.		Available.		Insoluble.			
Moisture.	Found.	Guaranteed.	Found.	Guaranteed.	Found.	Guaranteed.	Found.	Guaranteed.	Selling price per ton at place of selection.	Chemist's number.
%	%	%	%	%	%	%	%	%	$	
2.09	1.01	0.82	11.81	10.00	10.17	9.00	1.34	1.00	32 00	5136
4.25	1.23	0.82	10.91	10.00	9.57	9.00	1.34	1.00	32 30	5553
5.08	1.49	0.82	11.67	10.00	10.53	9.00	1.14	1.00	29 00	5280
2.46	1.78	1.65	11.81	11.00	10.94	10.00	0.87	1.00	41 00	5137
11.65	2.30	1.65	11.14	11.00	9.93	10.00	1.21	1.00	50 00	5243
7.32	1.24	0.82	11.80	11.00	10.07	10.00	1.73	1.00	32 50	5108
2.58	2.24	1.65	12.03	11.00	10.03	10.00	2.00	1.00	35 00	5109
2.70	2.12	1.65	11.11	11.00	9.96	10.00	1.15	1.00	44 00	5135
4.35	0.87	0.41	9.55	9.00	8.82	8.00	0.73	1.00	25 00	5345
2.31	0.76	0.82	10.50	11.00	*9.71	10.00	0.79	1.00	36 00	5391
2.47	0.80	0.82	9.49	11.00	*8.60	10.00	0.80	1.00	36 00	5400
3.60	0.69	0.82	11.58	11.00	10.02	10.00	1.56	1.00	37 00	5128
7.52	*0.95	1.65	9.36	11.00	*8.08	10.00	1.28	1.00	36 50	5053
7.38	*1.10	1.65	10.63	11.00	*8.86	10.00	1.77	1.00	43 00	5127
4.72	*1.25	1.65	11.82	11.00	11.16	10.00	0.66	1.00	32 75	5664
3.15	1.89	1.23	15.36	9.00	10.95	7.00	4.41	2.00	30 00	5399
8.21	1.65	1.65	11.25	----------	10.11	10.00	1.14	--------	37 00	5608
10.28	1.34	1.03	11.77	12.00	10.24	10.00	1.53	2.00	31 50	5105
4.75	1.18	1.23	10.87	9.50	10.24	9.00	0.63	0.50	--------	5428
5.89	1.35	1.23	9.32	9.50	*8.59	9.00	0.73	0.50	37 00	5007
2.64	0.85	0.62	8.62	7.50	7.82	7.00	0.80	0.50	26 25	5317
2.19	*0.23	0.82	9.78	----------	*7.87	10.00	1.91	--------	21 50	5101
3.41	1.22	0.82	10.93	9.00	8.67	8.00	2.26	1.00	28 00	5600
4.04	1.19	0.82	10.31	9.00	8.26	8.00	2.05	1.00	--------	5590
5.60	0.99	0.82	10.80	9.00	8.85	8.00	1.95	1.00	29 00	5029
13.56	1.69	1.65	11.74	11.00	9.94	10.00	1.80	1.00	37 00	5582
12.99	1.69	1.65	11.33	11.00	10.33	10.00	1.00	1.00	38 00	5588
11.50	1.58	1.65	11.68	11.00	*9.69	10.00	1.99	1.00	39 00	5030
6.97	1.27	0.82	11.91	11.00	10.03	10.00	1.88	1.00	29 15	5581
9.36	1.10	0.82	11.99	11.00	10.17	10.00	1.82	1.00	30 00	5589
7.21	0.90	0.82	12.50	11.00	11.08	10.00	1.42	1.00	31 00	5028

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*Deficient.

TABLE II.—NITROGEN AND PHOS

Chemist's number.	Name of Manufacturer and Brand.	Sample Taken From—
	JOSEPH R. GAWTHROP, KENNETT SQUARE, PA.	
5560	Ammoniated Special Phosphate for Corn, Oats and Wheat.	Joseph R. Gawthrop, Kennett Square, ------
5561	Champion Fertilizer for Wheat and Grass, --	Joseph R. Gawthrop, Kennett Square, ------
	GRIFFITH & BOYD COMPANY, BALTIMORE, MD.	
5324	Cereal Mixture, ----------------------------	F. E. Bailey, Northbrook, ----------------
5061	Cereal Mixture, ----------------------------	John I. Clay, Annville, ------------------
5154	Farmers Bone Mixture, ----------------------	Jacob Zeisloft, Bloomsburg, --------------
5408	Farmers Gem, -------------------------------	R. M. Arbogast, Winfield, ----------------
5323	Farmers Gem, -------------------------------	F. E. Bailey, Northbrook, ----------------
5369	Fish and Bone Mixture, ---------------------	Wm. Chamberlin, Christiana, --------------
5202	Fish and Bone Mixture, ---------------------	Dayton Milling Co., Dayton, --------------
5200	Peerless Mixture, --------------------------	Dayton Milling Co., Dayton, --------------
4964	Peerless Mixture, --------------------------	Garfield Milhous, Mendenhall, ------------
5476	Pure Dissolved Animal Bone, ----------------	E. L. White, Danville, -------------------
4891	Queen Guano, -------------------------------	W. C. Herr, Strasburg, -------------------
	S. M. HESS & BROTHER, INC., SUBSIDIARY OF THE AMERICAN AGRICULTURAL CHEMICAL CO., PHILADELPHIA, PA.	
5083	Ammoniated Grain Grower, -------------------	H. J. Frantz, Myerstown, -----------------
5084	Ammoniated Special Fertilizer, -------------	H. J. Frantz, Myerstown, -----------------
5071	Ammoniated Special Fertilizer, -------------	Abraham Keim, Strausstown, ---------------
	M. P. HUBBARD & CO., INC., BALTIMORE, MD.	
5098	Hubbard's Active Phosphate, ----------------	A. L. Herr & Brother, Quarryville, --------
5473	Hubbard's Atlas Guano, ---------------------	M. G. Adams, Paxinos, --------------------
	KEYSTONE BONE FERTILIZER COMPANY, PHILADELPHIA, PA.	
5232	Keystone Economy Grain Compound, -------	I. G. Williams, Lake Ariel, --------------
4994	Keystone Special Penna. Grain Mixture, -----	Milton J. Leidich, Riegelville, -----------
5231	Keystone Special Penna. Grain Mixture, -----	I. G. Williams, Lake Ariel, --------------
	KEYSTONE GRANGE EXCHANGE, MANSFIELD, PA.	
5149	Granger's Choice 2-11-0, --------------------	N. E. Litterer, Strawberry Ridge, ---------
5148	Granger's Grain Grower 1-10-0, -------------	N. E. Litterer, Strawberry Ridge, ---------
	KOLLER FERTILIZER CO., SEITZLAND, PA.	
5538	Koller's Two & Ten Phosphate, --------------	Koller Fertilizer Co., Seitzland, ----------
	THE LANCASTER BONE FERTILIZER COMPANY, LANCASTER, PA.	
5041	Ammoniated Bone Manure, -------------------	George Bare, New Holland, ----------------
5266	Ammoniated Bone Manure, -------------------	Joel Stump, Pine Grove, ------------------
5040	Corn, Grass and Wheat Special, ------------	George Bare, New Holland, ----------------
5524	Lancaster Favorite, ------------------------	Josiah Flinchbough, Windsor, -------------
5010	Lancaster Favorite, ------------------------	H. F. Hoke, Wrightsville, ----------------
5085	Lancaster Favorite, ------------------------	W. E. Urich, Myerstown, ------------------
	THE LANCASTER CHEMICAL COMPANY, LANCASTER, PA.	
5086	No. 5 Flag Brand, ---------------------------	Isaac Krall, Myerstown, ------------------
5341	No. 5 Flag Brand, ---------------------------	Frank Mast, Elverson, --------------------
5340	No. 10 Economist Fertilizer, ---------------	Frank Mast, Elverson, --------------------
4938	No. 11 Keystone Brand, ---------------------	F. T. Baker, Lewisburg, ------------------

PHORIC ACID FERTILIZERS—Continued.

	NITROGEN.		PHOSPHORIC ACID.						Selling price per ton at place of selection.	Chemist's number.
			Total.		Available.		Insoluble.			
Moisture.	Found.	Guaranteed.	Found.	Guaranteed.	Found.	Guaranteed.	Found.	Guaranteed.		
%	%	%	%	%	%	%	%	%	$	
5.25	1.30	0.80	7.27	6.00	5.89	5.00	1.38	1.00	38 00	5560
4.59	1.61	1.00	10.91	6.00	6.42	4.00	4.49	2.00	40 00	5561
4.24	0.80	0.85	9.49	9.00	8.90	8.00	0.59	1.00	30 00	5324
10.01	0.88	0.85	10.42	9.00	10.32	8.00	0.10	1.00	--------	5061
12.30	1.68	1.65	10.18	10.00	9.81	9.00	0.37	1.00	32 60	5154
8.03	*0.56	0.85	11.88	11.00	11.34	10.00	0.54	1.00	29 50	5408
5.88	1.28	0.85	11.79	11.00	11.23	10.00	0.56	1.00	32 00	5323
6.72	*1.20	1.50	9.06	8.00	8.41	7.00	0.65	1.00	--------	5369
6.85	1.36	1.50	9.44	8.00	9.26	7.00	0.18	1.00	32 50	5202
8.55	0.53	0.41	9.43	9.00	9.33	8.00	0.10	1.00	24 00	5200
7.20	0.59	0.41	9.82	9.00	9.51	8.00	0.31	1.00	25 00	4964
9.14	*1.83	2.05	12.90	11.00	10.69	10.00	2.21	1.00	45 00	5476
6.42	1.00	0.85	10.57	10.00	10.05	9.00	0.52	1.00	35 00	4891
4.11	1.12	0.82	9.06	9.00	8.46	8.00	0.60	1.00	31 00	5083
3.77	0.90	0.41	9.32	9.00	8.61	8.00	0.71	1.00	28 00	5084
4.45	1.10	0.41	9.75	9.00	9.39	8.00	0.36	1.00	--------	5071
4.08	0.55	0.42	9.04	9.50	8.73	8.00	0.31	1.50	24 00	5098
3.19	1.21	0.83	15.12	13.00	12.62	12.00	2.50	1.00	34 00	5473
3.32	1.28	0.82	11.41	10.00	9.65	9.00	1.76	1.00	30 00	5232
7.27	1.41	0.82	13.18	13.00	12.36	12.00	0.82	1.00	32 00	4994
4.69	1.01	0.82	14.22	13.00	13.06	12.00	1.16	1.00	32 00	5231
3.66	1.82	1.65	12.69	11.00	11.34	11.00	1.35	--------	35 96	5149
4.16	1.04	0.82	12.03	10.00	10.98	10.00	1.05	--------	27.61	5148
6.28	1.79	1.65	11.91	10.50	10.75	10.00	1.16	1.00	37 50	5538
6.20	1.34	0.82	11.48	10.00	10.04	9.00	1.44	1.00	31 00	5041
6.01	0.88	0.82	9.94	10.00	9.39	9.00	0.55	1.00	31 00	5266
7.00	0.64	0.40	11.28	11.00	10.59	10.00	0.69	1.00	33 00	5040
8.79	1.62	1.60	11.48	11.00	10.78	10.00	0.70	1.00	34 00	5524
7.30	3.12	1.60	10.80	11.00	10.17	10.00	0.63	1.00	36 00	5010
7.81	1.76	1.60	10.91	11.00	*9.69	10.00	1.22	1.00	40 00	5085
6.66	*0.95	1.23	10.41	11.00	*9.58	10.00	0.83	1.00	32 25	5086
6.34	*0.80	1.23	10.41	11.00	*8.04	10.00	2.37	1.00	33 50	5341
4.83	0.29	trace	12.58	11.00	12.40	10.00	0.18	1.00	21 50	5340
6.84	0.83	0.82	9.80	9.00	*7.47	8.00	2.33	1.00	30 50	4938

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*Deficient.

TABLE II.—NITROGEN AND PHOS

Chemist's number.	Name of Manufacturer and Brand.	Sample Taken From—
5102	No. 11 Keystone Brand,	Quarryville Farmers Association, Quarryville.
5100	No. 12 Wheat Special,	Quarryville Farmers Association, Quarryville.
5377	No. 14 Wheat and Grass,	E. B. Ruhl & Son, Manheim,
	LEBANON FERTILIZER WORKS, LEBANON, PA.	
5017	Levan's Grain & Grass Fertilizer,	Kreitz Creek Farmers Cooperative Association, York.
4896	Levan's Grain & Grass Fertilizer,	West Willow Farmers Association, West Willow.
	LISTERS AGRICULTURAL CHEMICAL WORKS, NEWARK, N. J.	
5036	Listers Crescent Ammoniated Superphosphate, 1916.	George Bard, Leacock,
5107	Listers 2-12-0 Fertilizer,	Landis Brackbill, Kinser,
5146	Listers Fish Brand Fertilizer,	F. E. Bailey, Northbrook,
4973	Listers Grain Phosphate,	Wm. H. Fritz, Berwyn,
5423	Listers Grain Phosphate,	R. K. Yoder, Belleville,
4904	Listers Grain Phosphate,	Levi K. Zigler, Lititz,
5143	Listers Plant Food, 1916,	F. E. Bailey, Northbrook,
4907	Listers Plant Food, 1916,	Levi K. Zigler, Lititz,
5145	Listers Soil Improver,	F. E. Bailey, Northbrook,
5597	Listers Soil Improver,	J. W. Miller, Mechanicsburg,
5357	Listers Soil Improver,	Pequea Supply Co., Pequea,
	FREDERICK LUDLAM COMPANY, SUBSIDIARY OF THE AMERICAN AGRICULTURAL CHEMICAL CO., BALTIMORE, MD.	
5184	Ludlam's Cecrops Fertilizer Bono Manure,	W. Denton Myers, East Berlin,
5525	Ludlam's Cecrops Fertilizer Bono Manure,	J. A. Stine, York,
5185	Ludlam's Cecrops Fertilizer Wheat Mixture,	W. Denton Myers, East Berlin,
	THE MAPES FORMULA AND PERUVIAN GUANO COMPANY, NEW YORK, N. Y.	
5480	Mapes General Crop (1916 Brand),	Samuel Sebring, Mount Pocono,
	THE MARTIN FERTILIZER COMPANY, PHILADELPHIA, PA.	
5110	Martin's Crop Producer,	Jacob L. Fisher, Smoketown,
5333	Martin's Crop Producer,	Wm. C. Ritter, Atglen,
5558	Martin's Crop Producer,	H. R. Seibert, Gibsonia,
	MATTHIAS & BROWN, LITTLESTOWN, PA.	
5546	Half & Half Mixture,	Matthias & Brown, Littlestown,
	F. MEHRING, BRUCEVILLE, MD.	
5022	Wheat and Grass Producer,	J. J. Spangler, Littlestown,
	THE MILLER FERTILIZER COMPANY, BALTIMORE, MD.	
5453	Farmers Profit,	M. S. Newswanger & Brother, Goodville,
5326	Miller's No. 1 Special,	Miller T. Harkins, Hickory Hill,
5009	Miller's No. 1 Special,	Elmer Markey, York,
5451	Miller's No. 1 Special,	M. S. Newswanger & Brother, Goodville,
5424	Pimlico,	C. A. Kratzer, Middleburg,
	NASSAU FERTILIZER COMPANY, NEW YORK, N. Y.	
5446	Ammoniated Potato Compound,	A. A. Chamberlain, Gouldsboro,
5445	Ammoniated Truck Producer,	A. A. Chamberlain, Gouldsboro,
5259	Buckwheat Special,	Kamerer Hardware Co., Lehighton,

PHORIC ACID FERTILIZERS—Continued.

	NITROGEN.		PHOSPHORIC ACID.						Selling price per ton at place of selection.	Chemist's number.
			Total.		Available.		Insoluble.			
Moisture.	Found.	Guaranteed.	Found.	Guaranteed.	Found.	Guaranteed.	Found.	Guaranteed.		
%	%	%	%	%	%	%	%	%	$	
1.77	0.75	0.82	8.66	9.00	*6.67	8.00	1.99	1.00	28 00	5102
6.27	*1.32	1.65	11.12	11.00	*9.37	10.00	1.75	1.00	37 00	5100
4.47	0.72	0.82	10.74	11.00	10.22	10.00	0.52	1.00	33 00	5377
7.32	1.68	1.65	11.38	11.00	*9.53	10.00	1.85	1.00	35 75	5027
5.15	1.59	1.65	12.40	11.00	10.46	10.00	1.94	1.00	56 00	4896
6.65	1.80	1.65	12.55	11.00	10.62	10.00	1.93	1.00	40 00	5036
8.28	*1.20	1,65	12.77	13.00	12.50	12.00	0.27	1.00	39 00	5107
4.85	1.22	1.23	11.48	11.00	10.79	10.00	0.69	1.00	36 00	5146
7.52	1.58	1.23	11.90	11.00	10.51	10.00	1.39	1.00	38 00	4973
6.74	1.64	1.23	11.45	11.00	10.10	10.00	1.35	1.00	35 40	5423
8.87	1.61	1.23	12.42	11.00	10.52	10.00	1.90	1.00	33 60	4904
5.57	1.29	0.82	11.28	11.00	10.31	10.00	0.97	1.00	32 00	5143
10.00	1.20	0.82	12.16	11.00	10.88	10.00	1.28	1.00	32 00	4907
2.58	1.28	0.82	10.09	9.00	9.06	8.00	1.03	1.00	30 00	5145
5.53	1.33	0.82	9.81	9.00	8.67	8.00	1.14	1.00	29 00	5597
7.47	1.12	0.82	10.83	9.00	9.59	8.00	1.24	1.00	31 00	5357
5.06	1.24	0.82	10.00	9.00	8.81	8.00	1.19	1.00	29 00	5184
5.60	1.12	0.82	9.38	9.00	8.42	8.00	0.96	1.00	29 49	5525
4.56	1.93	1.65	9.48	9.00	8.64	8.00	0.84	1.00	36 75	5185
9.28	2.38	1.65	12.88	10.00	*7.08	8.00	5.60	2.00	43 00	5480
5.70	1.06	1.03	12.79	11.00	11.41	10.00	1.38	1.00	--------	5110
5.54	1.05	1.03	11.84	11.00	10.46	10.00	1.38	1.00	30 75	5333
5.28	1.07	1.03	12.25	11.00	10.89	10.00	1.36	1.00	37 00	5558
7.45	1.20	0.82	14.16	12.50	13.61	12.00	0.55	0.50	30 00	5546
8.92	1.24	1.03	16.29	15.00	15.37	14.00	0.92	1.00	30 00	5022
6.29	1.69	1.44	11.14	9.50	10.27	9.00	0.87	0.50	37 00	5453
3.46	1.81	1.65	11.21	10.50	10.23	10.00	0.98	0.50	37 00	5326
8.44	*1.39	1.65	10.20	10.50	*9.59	10.00	0.61	0.50	--------	5009
6.74	1.72	1.65	12.04	10.50	10.83	10.00	1.21	0.50	32 25	5451
2.90	*2.26	2.47	8.88	8.50	8.18	8.00	0.70	0.50	--------	5424
7.30	2.68	2.47	11.99	11.00	9.97	10.00	2.02	1.00	43 00	5446
7.41	*2.64	3.29	11.65	11.00	10.25	10.00	1.40	1.00	49 35	5445
3.40	1.28	0.82	9.66	9.00	8.55	8.00	1.11	1.00	28 50	5259

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*Deficient.

TABLE II.—NITROGEN AND PHOS

Chemist's number.	Name of Manufacturer and Brand.	Sample Taken From—
5303	Buckwheat Special,	Howard S. Moch, Alum Bank,
5079	Buckwheat Special,	William Olinger, Shoemakersville,
5206	Common Sense Fertilizer, 1916,	B. W. Bedell, Mill City,
	NITRATE AGENCIES COMPANY, NEW YORK, N. Y.	
5510	N. A. C. Brand 1-8-0 Mixture,	Arthur A. Geiger, Joanna,
4970	N. A. C. Brand 1-10-0 Mixture,	Edward Brinton & Son, West Chester,
5536	N. A. C. Brand 1-10-0 Mixture,	J. P. Schuhart, New Freedom,
5515	N. A. C. Brand 1-10-0 Mixture,	N. R. Yost, Myerstown,
4971	N. A. C. Brand 2-10-0 Mixture,	Edward Brinton & Son, West Chester,
5537	N. A. C. Brand 2-10-0 Mixture,	Jos. Fulton Sons Co., Stewartstown,
5519	N. A. C. Brand 2-10-0 Mixture,	Heffner-Dietrich & Co., Kutztown,
	G. OBER & SONS COMPANY, BALTIMORE, MD.	
5065	Ober's Climax Ammoniated Compound,	A. M. Brandt, Campbelltown,
5332	Ober's Liberty Fish Guano,	Brown & Rea, Atglen,
5660	Ober's Liberty Fish Guano,	V. A. Stufft, Imler,
5067	Ober's Sun Beam Guano,	A. M. Brandt, Campbelltown,
	OYLER & SPANGLER FERTILIZER WORKS, INC., GETTYSBURG, PA.	
5178	Special,	G. C. Myers, Gardners,
	PATAPSCO GUANO COMPANY, SUBSIDIARY OF THE AMERICAN AGRICULTURAL CHEMICAL CO., BALTIMORE, MD.	
5587	Patapsco 1-8-0 Fertilizer,	Charles S. Brunner, New Bloomfield,
5584	Patapsco 1-8-0 Fertilizer,	J. B. Lightner, Loysville,
4983	Patapsco Farmers Delight,	Ackermanville Milling Co., Ackermanville,
5456	Patapsco Golden Crop Fertilizer, 1916,	M. S. Newswanger & Brother, Goodville,
5209	Patapsco Golden Crop Fertilizer, 1916,	Oscar Van Buskerk, Bald Mount,
5251	Patapsco Hay Maker Revised,	J. G. Kellar, Clark Summit,
5208	Patapsco Hay Maker Revised,	Oscar Van Buskerk, Bald Mount,
5212	Patapsco Prize Crop Compound,	Oscar Van Buskerk, Bald Mount,
5207	Patapsco Trucker's Delight,	Oscar Van Buskerk, Bald Mount,
	PIEDMONT MT. AIRY GUANO COMPANY, BALTIMORE, MD.	
5360	Levering's Standard,	H. E. Mullen, Christiana,
5580	Piedmont Special Crop Grower,	C. F. Gelbach, Duncannon,
5359	Piedmont Special Crop Grower,	H. E. Mullen, Christiana,
5282	Piedmont Special Crop Grower,	Amandus W. Woodring, Schenecksville,
5361	Piedmont Utility Fertilizer,	H. E. Mullen, Christiana,
	PITTSBURGH PROVISION AND PACKING COMPANY, PITTSBURGH, PA.	
5645	Guano Fertilizer,	W. N. Acklin, Beallsville,
	THE POLLOCK FERTILIZER COMPANY, SUBSIDIARY OF THE AMERICAN AGRICULTURAL CHEMICAL COMPANY, BALTIMORE, MD.	
5331	Ammoniated Fertilizer "A,"	Richard Scully, Pomeroy,
5640	War Brand,	W. H. Landis, Rockwood,
	RASIN-MONUMENTAL COMPANY, BALTIMORE, MD.	
4928	Rasin's Special Crop Preparation,	Bradfort & Son, Center Hall,
5612	Rasin's Special Fish Mixture,	F. G. Boyer, Millersburg,
5404	Rasin's Special Fish and Bone Guano,	A. R. Gehman, New Britain,

PHORIC ACID FERTILIZERS—Continued.

Moisture.	NITROGEN.		PHOSPHORIC ACID.						Selling price per ton at place of selection.	Chemist's number.
			Total.		Available.		Insoluble.			
	Found.	Guaranteed.	Found.	Guaranteed.	Found.	Guaranteed.	Found.	Guaranteed.		
%	%	%	%	%	%	%	%	%	$	
5.50	1.23	0.82	10.20	9.00	9.04	8.00	1.16	1.00	28 50	5303
3.94	1.28	0.82	10.28	9.00	8.85	8.00	1.43	1.00	--------	5079
6.80	2.02	1.65	11.93	11.00	10.12	10.00	1.81	1.00	34 25	5206
5.51	1.30	0.82	10.08	9.00	8.91	8.00	1.17	1.00	--------	5510
3.43	1.24	0.82	9.89	11.00	*9.34	10.00	0.55	1.00	31 00	4970
6.33	0.89	0.82	10.42	11.00	9.87	10.00	0.55	1.00	29 00	5536
2.66	1.01	0.82	11.37	11.00	10.80	10.00	0.57	1.00	30 00	5515
4.81	1.62	1.65	10.37	11.00	*9.60	10.00	0.77	1.00	37 00	4971
2.80	1.89	1.65	10.59	11.00	*9.40	10.00	1.19	1.00	36 00	5537
6.51	2.08	1.65	12.81	11.00	11.01	10.00	1.80	1.00	35 00	5519
10.90	1.76	1.65	13.93	13.00	12.82	12.00	1.11	1.00	40 25	5065
9.77	1.34	1.03	14.90	14.00	14.17	13.00	0.73	1.00	36 00	5332
7.82	1.25	1.03	15.09	14.00	14.02	13.00	1.07	1.00	36 50	5660
9.16	1.79	1.65	11.89	11.00	11.04	10.00	0.85	1.00	38 50	5067
5.94	1.56	1.65	16.20	----------	14.30	11.00	1.90	--------	38 50	5178
3.32	1.20	0.82	10.03	9.00	8.96	8.00	1.07	1.00	--------	5587
3.65	1.23	0.82	8.97	9.00	8.14	8.00	0.83	1.00	28 00	5584
5.43	1.24	0.82	9.96	9.00	8.74	8.00	1.22	1.00	31 00	4983
2.58	1.94	1.65	11.93	11.00	10.58	10.00	1.35	1.00	40 00	5456
5.86	1.94	1.65	12.04	11.00	11.22	10.00	0.82	1.00	35 00	5209
11.94	*5.20	5.76	7.84	7.00	6.41	6.00	1.43	1.00	58 00	5251
6.95	5.70	5.76	7.99	7.00	6.26	6.00	1.73	1.00	65 00	5208
8.60	3.80	3.29	11.81	11.00	10.38	10.00	1.43	1.00	48 50	5212
4.80	2.67	2.47	12.00	11.00	10.05	10.00	1.95	1.00	42 00	5207
3.80	1.80	1.65	9.78	9.00	8.54	8.00	1.24	1.00	38 00	5360
4.00	1.32	0.82	11.39	11.00	10.22	10.00	1.17	1.00	30 00	5580
3.12	1.15	0.82	11.29	11.00	10.69	10.00	0.60	1.00	31 00	5359
4.18	1.30	0.82	12.11	11.00	10.77	10.00	1.34	1.00	28 00	5282
6.07	1.65	1.65	11.06	11.00	10.27	10.00	0.79	1.00	39 00	5361
3.15	2.45	1.43	11.94	11.00	*7.82	9.00	4.12	2.00	31 00	5645
7.26	1.10	0.82	11.61	11.00	10.31	10.00	1.30	1.00	33 00	5331
5.38	0.65	0.41	8.89	9.00	8.11	8.00	0.78	1.00	26 50	5640
7.74	2.09	1.65	13.16	11.00	12.53	10.00	0.63	1.00	41 50	4928
8.69	1.20	0.82	11.86	11.00	10.66	10.00	1.20	1.00	33 00	5612
5.37	2.18	1.65	14.73	12.00	12.83	11.00	1.90	1.00	39 00	5404

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*Deficient.

TABLE II.—NITROGEN AND PHOS

Chemist's number.	Name of Manufacturer and Brand.	Sample Taken From—
	READING BONE FERTILIZER COMPANY, READING, PA.	
5034	Animal Tankage Mixture,	Benjamin Leaman, Mountville,
4910	Dissolved Animal Matter,	J. H. Reitz, Milway,
5342	Dissolved Animal Matter,	Levi Roberts, Glen Moore,
5343	Reading All Crop Special,	Levi Roberts, Glen Moore,
5646	Reading Special Grain and Grass Producer,	James L. Dague, West Brownsville,
5035	Reading Special Grain and Grass Producer,	Benjamin Leaman, Mountville,
4925	Reading Special Grain and Grass Producer,	Wm. Mons, Kylertown,
4911	Schuylkill Valley Favorite,	J. H. Reitz, Milway,
	READING CHEMICAL COMPANY, READING, PA.	
5132	Farmers Favorite,	A. C. Harrar, Lansdale,
5512	Farmers Favorite,	A. B. Roberts, Blandon,
5138	Farmers Meat Mixture,	W. C. Snell, Pottstown,
5320	Reading Soil Builder,	Samuel Cessna, Bedford,
5064	Reading Soil Builder,	Isaac Heffelfinger, Myerstown,
5153	Reading Soil Builder,	Albert Warn, Hughesville,
	ROBERT A. REICHARD, ALLENTOWN, PA.	
5285	Lehigh Special Phosphate,	Francis Peters, Schencksville,
	F. S. ROYSTER GUANO COMPANY, BALTIMORE, MD.	
5613	Royster's Corn and Oats Fertilizer,	F. C. Deveny, Forest City,
4962	Royster's Corn and Oats Fertilizer,	Wm. H. Walker & Co., Kennett Square,
5363	Royster's C. B. Fish Mixture,	H. E. Mullen, Christiana,
5120	Royster's Grain and Grass Special,	S. K. Chambers & Bro., Elkview,
4923	Royster's Grain and Grass Special,	J. S. Waite & Co., Bellefonte,
5614	Royster's Innovation Ammoniated Superphosphate.	F. C. Deveny, Forest City,
	THE SCOTT FERTILIZER COMPANY, ELKTON, MD.	
5049	Scott's Crop Grower,	S. Book & Brother, Quarryville,
5122	Scott's Crop Grower,	Edw. Rupert, Oxford,
5050	Scott's Special Grain Grower,	S. Book & Brother, Quarryville,
5354	Scott's Special Grain Grower,	Fred Gross, Adamstown,
	M. L. SHOEMAKER & COMPANY, LTD., PHILADELPHIA, PA.	
5131	Swift-Sure Guano for Tomatoes, Truck and Corn.	Wm. J. Tyson, Horsham,
	SWIFT & COMPANY, BALTIMORE, MD.	
4991	Swift's Ammoniated Phosphate,	Charles R. Beers, Easton,
5464	Swift's Ammoniated Phosphate,	S. G. Brinser, Rheems,
5090	Swift's Ammoniated Phosphate,	E. B. Fritz & Sons Co., Quarryville,
5465	Swift's Diamond "C" Grain Fertilizer,	S. G. Brinser, Rheems,
4952	Swift's Diamond "C" Grain Fertilizer,	Adam Schmehl, North Wales,
5005	Swift's Phosphate Fertilizer,	Cook Grain, Feed & Supply Co., Dillsburg,
5091	Swift's Phosphate Fertilizer,	E. B. Fritz & Sons Co., Quarryville,
5505	Swift's Phosphate Fertilizer,	Wm. H. Siegfried, Kempton,
5463	Swift's Special Corn Grower,	S. G. Brinser, Rheems,
5118	Swift's Special Diamond "A" Fertilizer,	W. E. Ervin, Somerton,
4953	Swift's Wheat and Rye Grower,	Adam Schmehl, North Wales,
	I. P. THOMAS & SON COMPANY, PHILADELPHIA, PA.	
5336	Thomas' Triumph Manure,	James K. Lewis, Honeybrook,
5183	Thomas' Triumph Manure,	W. Denton Myers, East Berlin,
5551	Thomas' Triumph Manure,	A. F. Stutzman & Sons, Johnstown,
5348	Wheat Special,	Greenville Coal & Ice Co., Greenville,
5160	Wheat Special,	C. R. Henrie, Millville,
5335	Wheat Special,	James K. Lewis, Honeybrook,

PHORIC ACID FERTILIZERS—Continued.

Moisture.	NITROGEN.		PHOSPHORIC ACID.						Selling price per ton at place of selection.	Chemist's number.
			Total.		Available.		Insoluble.			
	Found.	Guaranteed.	Found.	Guaranteed.	Found.	Guaranteed.	Found.	Guaranteed.		
%	%	%	%	%	%	%	%	%	$	
2.06	2.21	1.64	15.73	15.00	*13.20	14.00	2.53	1.00	44 00	5034
3.30	1.22	0.82	12.55	11.00	10.50	10.00	2.05	1.00	34 50	4910
4.00	1.43	0.82	12.90	11.00	11.37	10.00	1.53	1.00	34 00	5342
1.90	1.96	1.64	12.25	11.00	10.32	10.00	1.93	1.00	38 50	5343
2.12	1.54	0.82	9.39	8.00	8.19	7.00	1.20	1.00	30 00	5646
1.04	1.24	0.82	10.26	8.00	8.91	7.00	1.35	1.00	32 00	5035
2.15	1.46	0.82	8.80	8.00	7.91	7.00	0.89	1.00	30 00	4925
2.19	1.14	0.41	9.49	8.00	8.35	7.00	1.14	1.00	28 50	4911
5.53	0.99	0.82	13.64	11.00	10.59	10.00	3.05	1.00	34 00	5132
6.57	0.87	0.82	10.18	11.00	10.00	10.00	0.18	1.00	--------	5512
6.00	0.85	0.82	8.25	9.00	8.01	8.00	0.24	1.00	32 00	5138
9.18	1.54	1.64	11.37	11.00	10.82	10.00	0.55	1.00	35 00	5320
10.71	1.61	1.64	11.37	11.00	10.67	10.00	0.70	1.00	--------	5064
6.38	1.73	1.64	11.58	11.00	10.66	10.00	0.92	1.00	39 20	5153
7.79	1.95	1.64	12.68	13.00	*11.57	12.00	1.11	1.00	29 50	5285
2.75	1.29	0.82	9.18	8.50	7.84	8.00	1.34	0.50	27 25	5613
3.24	1.27	0.82	10.06	8.50	8.41	8.00	1.65	0.50	28 00	4962
2.22	1.84	1.65	8.92	8.50	8.01	8.00	0.91	0.50	38 00	5363
1.91	1.14	0.82	8.83	8.50	8.00	8.00	0.83	0.50	34 00	5120
4.51	1.36	0.82	9.03	8.50	7.89	8.00	1.14	0.50	26 50	4923
2.72	3.35	2.47	9.29	8.50	*7.59	8.00	1.70	0.50	33 00	5614
8.21	1.93	1.65	13.48	10.00	11.77	8.00	1.71	2.00	36 00	5049
3.66	1.84	1.65	11.19	10.00	9.83	8.00	1.36	2.00	--------	5122
6.40	1.07	0.82	12.85	12.00	11.33	10.00	1.52	2.00	30 00	5050
5.30	1.28	0.82	13.09	12.00	11.60	10.00	1.49	2.00	32 00	5354
5.18	2.55	1.65	14.41	10.00	8.87	8.00	5.54	2.00	44 00	5131
4.51	0.99	0.82	11.25	10.00	10.46	10.00	0.79	--------	30 00	4991
2.39	1.05	0.82	11.12	10.00	10.38	10.00	0.74	--------	32 00	5464
2.98	1.15	0.82	10.77	10.00	*9.32	10.00	1.45	--------	32 00	5090
2.52	1.05	0.82	8.95	8.00	8.30	8.00	0.65	--------	30 00	5465
3.03	1.14	0.82	7.42	8.00	*6.23	8.00	1.19	--------	28 50	4952
2.34	1.21	0.82	20.17	20.00	*10.59	13.00	9.67	7.00	36 40	5005
2.42	1.16	0.82	21.37	20.00	*11.17	13.00	10.20	7.00	37 00	5091
3.77	1.34	0.82	20.78	20.00	*11.16	13.00	9.62	7.00	35 50	5505
3.02	1.81	1.65	10.57	10.00	*9.73	10.00	0.84	--------	40 00	5463
4.07	2.54	2.47	9.36	8.00	7.97	8.00	1.39	--------	50 00	5118
3.50	1.60	1.65	8.74	8.00	*7.32	8.00	1.42	--------	36 25	4953
6.38	1.34	0.82	12.85	10.50	10.94	10.00	1.91	0.50	32 00	5336
8.14	1.62	0.82	13.51	10.50	12.58	10.00	0.93	0.50	30 50	5183
5.65	1.80	0.82	10.24	10.50	*8.84	10.00	1.40	0.50	35 00	5551
8.72	0.60	0.41	14.16	12.50	14.02	12.00	0.14	0.50	32 00	5348
9.95	0.90	0.41	13.46	12.50	12.96	12.00	0.50	0.50	40 00	5160
8.67	0.75	0.41	13.93	12.50	13.46	12.00	0.47	0.50	29 00	5335

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*Deficient.

TABLE II.—NITROGEN AND PHOS

Chemist's number.	Name of Manufacturer and Brand.	Sample Taken From—
	F. W. TUNNELL & CO., INC., PHILADELPHIA, PA.	
5152	Wheat Grower,	Earnest Artley, Pennsdale,
4894	Wheat Grower,	H. C. Brackbill, Strasburg,
4959	Wheat Grower,	H. A. Mendenhall, Toughkenamon,
	THE J. E. TYGERT COMPANY, SUBSIDIARY OF THE AMERICAN AGRICULTURAL CHEMICAL COMPANY, PHILADELPHIA, PA.	
5397	Ammoniated Fertilizer A,	Harry McNair, Mechanicsville,
5117	Ammoniated Fertilizer AAA,	Mullin Brothers, Bustleton,
	VIRGINIA-CAROLINA CHEMICAL COMPANY, BALTIMORE, MD.	
5532	V. C. Special Fish Preparation,	Brodbeck & Rohrbaugh, Brodbeck,
5533	V. C. Star Superphosphate,	Brodbeck & Rohrbaugh, Brodbeck,
	WASHINGTON, ALEXANDER & COOKE COMPANY, CHARLES TOWN, W. VA.	
5419	W. A. & C.'s Farmers Friend,	Ed. Nipple, Walnut,
5175	W. A. & C.'s Half and Half,	E. S. Kelly, Gettysburg,
	THE ROBERT A. WOOLDRIDGE COMPANY, BALTIMORE, MD.	
5659	Wooldridge's General Crop Grower,	Cyrus Brumbaugh, New Enterprise,
5530	Wooldridge's General Crop Grower,	Sam. H. Shearer, Seven Valley,
5169	Wooldridge's General Crop Grower,	George M. Walter, Milton,
5170	Wooldridge's Success Fertilizer,	George M. Walter, Milton,
	YORK CHEMICAL WORKS, YORK, PA.	
5190	Dempwolf's Crop Grower,	F. W. Shenberger, Red Lion,
5461	Dempwolf's Crop Grower,	Harry Stauffer, Leola,
5337	Dempwolf's Crop Grower,	Henry S. Zook, Elverson,
5576	Dempwolf's Golden Sheaf,	M. D. Ebersole, Middletown,
5417	Dempwolf's Golden Sheaf,	W. H. Kramer, Mifflintown,
4948	Dempwolf's Prosperity,	Thomas Haines Co., Malvern,
5578	Dempwolf's R. B. Special,	M. D. Ebersole, Middletown,
4947	Dempwolf's Royal Mixture,	Thomas Haines Co., Malvern,
5571	Dempwolf's Royal Mixture,	Hershey Store Co., Hershey,
5460	Dempwolf's Royal Mixture,	Harry Stauffer, Leola,
4938	Dempwolf's York Special,	Harry Pyle & Son, Chadds Ford Junction,
5027	Dempwolf's York Special,	J. Harry Summy, Landisville,
		Average,

PHORIC ACID FERTILIZER.—Concluded.

Moisture.	NITROGEN.		PHOSPHORIC ACID.						Selling price per ton at place of selection.	Chemist's number.
			Total.		Available.		Insoluble.			
	Found.	Guaranteed.	Found.	Guaranteed.	Found.	Guaranteed.	Found.	Guaranteed.		
%	%	%	%	%	%	%	%	%	$	
3.63	1.25	0.82	10.69	10.00	*8.71	9.00	1.98	1.00	30 00	5152
4.60	1.20	0.82	11.48	10.00	9.40	9.00	2.08	1.00	33 00	4894
4.19	1.40	0.82	10.72	10.00	9.76	9.00	0.96	1.00	33 00	4959
2.81	1.34	0.82	12.40	11.00	11.48	10.00	0.92	1.00	29 00	5397
8.11	2.74	2.47	12.12	11.00	10.82	10.00	1.30	1.00	55 00	5117
9.38	1.23	0.82	12.02	11.00	10.39	10.00	1.63	1.00	30 00	5532
5.12	0.72	0.41	9.26	9.00	8.41	8.00	0.85	1.00	24 00	5533
9.25	1.20	0.82	10.45	9.00	9.11	8.00	1.34	1.00	28 00	5419
4.16	1.24	1.00	19.99	15.00	14.16	13.00	5.83	2.00	35 00	5175
3.86	1.43	0.82	9.35	9.00	8.18	8.00	1.17	1.00	28 00	5659
5.40	1.05	0.82	9.86	9.00	8.47	8.00	1.39	1.00	27 75	5530
4.71	1.31	0.82	10.32	9.00	9.21	8.00	1.11	1.00	31 50	5169
7.95	1.17	0.82	11.70	11.00	10.42	10.00	1.28	1.00	29 50	5170
4.94	0.79	0.82	9.80	----------	*9.60	10.00	0.20	--------	30 00	5190
3.75	0.90	0.82	10.12	----------	*9.13	10.00	0.99	--------	32 00	5461
6.76	0.83	0.82	10.09	----------	*9.64	10.00	0.45	--------	30 00	5337
6.67	0.85	0.82	9.85	----------	9.21	8.00	0.64	--------	29 00	5576
7.53	0.85	0.82	8.75	----------	8.10	8.00	0.65	--------	--------	5417
9.00	1.69	1.65	14.86	----------	13.62	12.00	1.24	--------	41 00	4948
4.50	1.88	1.65	12.45	----------	10.78	10.00	1.67	--------	44 00	5578
7.18	1.84	1.65	11.71	----------	10.82	10.00	0.89	--------	39 00	4947
6.03	1.55	1.65	11.49	----------	10.28	10.00	1.21	--------	--------	5571
6.16	1.66	1.65	11.89	----------	10.74	10.00	1.15	--------	40 00	5460
4.87	1.06	0.82	13.83	----------	13.10	12.00	0.73	--------	32 75	4968
4.10	0.94	0.82	14.14	----------	13.23	12.00	0.91	--------	35 00	5027
5.66	1.46	----------	11.37	----------	9.94	--------	1.43	--------	34 21	--------

*Deficient.

TABLE NO. III.—GROUND

Furnishing Nitrogen

Chemist's number.	Name of Manufacturer and Brand.	Sample Taken From—
	THE AMERICAN AGRICULTURAL CHEMICAL COMPANY, NEW YORK, N. Y.	
5234	Fine Ground Bone,	Weeks Hardware Co., Scranton,
	BAUGH & SONS CO., PHILADELPHIA, PA.	
5042	Baugh's Pure Steamed Bone,	Ephrata Implement Co., Ephrata,
4960	Baugh's Pure Steamed Bone,	H. A. Mendenhall, Toughkenamon,
5517	Baugh's Pure Steamed Bone,	A. W. Schoner, Womelsdorf,
5044	Baugh's Raw Bone Meal, Warranted Pure,	Ephrata Implement Co., Ephrata,
5194	Baugh's Raw Bone Meal, Warranted Pure,	George W. Holtzinger, Red Lion,
5663	Baugh's Raw Bone Meal, Warranted Pure,	W. E. Schmick, Hamburg,
	BOWKER FERTILIZER COMPANY, SUBSIDIARY OF THE AMERICAN AGRICULTURAL CHEMICAL COMPANY, NEW YORK, N. Y.	
5437	Bowker's Fresh Ground Bone,	Seamons, Factoryville,
	THE JAS. G. DOWNWARD CO., COATESVILLE, PA.	
5511	Pure Ground Bone,	Gideon Zook, Elverson,
	HUBBARD FERTILIZER CO., BALTIMORE, MD.	
5125	Hubbard's Pure Raw Bone,	John Hicks, Avondale,
	MARTIN FERTILIZER CO., PHILADELPHIA, PA.	
5458	Martin's Pure Ground Bone,	Adam Martin, East Earl,
4966	Martin's Pure Ground Bone,	Harry Pyle & Son, Chadds Ford Junction,
	NITRATE AGENCIES CO., NEW YORK, N. Y.	
5012	N. A. C. Brand Ground Bone,	Dover Farmers Cooperative Association, Dover.
	F. S. ROYSTER GUANO COMPANY, BALTIMORE, MD.	
5364	Royster's Pure Raw Bone Meal,	H. E. Mullen, Christiana,
	THE SCOTT FERTILIZER COMPANY, ELKTON, MD.	
5353	Scott's Pure Bone Meal,	Fred Cross, Adamstown,
5121	Scott's Pure Ground Raw Bone,	Edw. Rupert, Oxford,
		Average,

BONE FERTILIZERS.

and Phosphoric Acid

	CHEMICAL ANALYSIS.				MECHANICAL ANALYSIS.			
	NITROGEN.		PHOSPHORIC ACID.					
Moisture.	Found.	Guaranteed.	Found.	Guaranteed.	Fine.	Coarse.	Selling price per ton at place of selection.	Chemist's number.
%	%	%	%	%	%	%	$	
2.83	*2.23	2.47	28.70	22.88	62	38	58 00	5234
8.12	1.69	1.65	28.79	25.00	71	29	58 00	5042
5.86	2.10	1.65	27.88	25.00	68	32	47 00	4960
6.75	1.80	1.65	29.73	25.00	70	30	47 00	5517
7.45	3.46	3.30	22.45	20.50	63	37	52 00	5044
7.50	3.91	3.30	21.12	20.50	59	41	52 00	5194
6.91	3.50	3.30	*18.69	20.50	64	36	47 50	5663
2.65	2.35	2.47	30.16	22.88	61	39	50 00	5437
5.75	4.70	2.88	*17.97	20.00	47	53	----------	5511
5.85	3.84	3.69	23.15	22.50	46	54	52 00	5125
3.51	2.47	1.65	24.90	22.90	55	45	46 00	5458
3.24	2.22	1.65	24.33	22.90	65	35	46 50	4966
5.10	3.04	2.46	*17.31	22.88	61	39	52 00	5012
7.88	4.44	3.70	23.59	21.50	54	46	55 00	5364
3.03	3.10	2.50	26.32	23.00	70	30	45 00	5353
6.01	3.89	3.70	21.69	21.00	62	38	----------	5121
5.52	3.05	------------	24.17	------------	61	39	50 57	----------

*Deficient.

TABLE NO. IV.—ACIDULATED

Furnishing

Chemist's number.	Name of Manufacturer and Brand.	Sample Taken From—
	THE AMERICAN AGRICULTURAL CHEMICAL COMPANY, NEW YORK, N. Y.	
5218	14% Acid Phosphate,	G. A. Spencer, Waverly,
5591	16% Acid Phosphate,	Benjamin Noll, Middletown,
5220	16% Acid Phosphate,	G. A. Spencer, Waverly,
5155	Apex Acid Phosphate,	Mrs. J. H. Kase Estate, Riverside,
5655	Apex Acid Phosphate,	G. R. Lutz, Lutzville,
5625	Apex Acid Phosphate,	J. S. Weaver, New Oxford,
5115	Basic Lime Phosphate,	C. E. Brackbill, Intercourse,
5265	Basic Lime Phosphate,	W. H. Ryland, Cressona,
5388	Basic Lime Phosphate,	H. C. Trexler, Allentown,
5638	W. S. Farmer & Co's High Grade Superphosphate.	Jeremiah Thomas, Somerfield,
	AMERICAN FERTILIZING COMPANY, BALTIMORE, MD.	
5367	American High Grade Acid Phosphate,	Jones Evanson, Christiana,
	ARMOUR FERTILIZER WORKS, INC., BALTIMORE, MD.	
5309	Armour's Acid Phosphate,	Ralph Gregory, Petersburg,
4981	Armour's Star Phosphate,	Nazareth Coal & Lumber Co., Nazareth,
	BAUGH & SONS COMPANY, PHILADELPHIA, PA.	
5636	Baugh's 14% High Grade Acid Phosphate,	E. M. Werkheiser, Stroudsburg,
5568	Baugh's 16% Acid Phosphate,	A. T. Alleman, Middletown,
5355	Baugh's 16% Acid Phosphate,	Henry Lutz, Denver,
	BOWKER FERTILIZER COMPANY, SUBSIDIARY OF THE AMERICAN AGRICULTURAL CHEMICAL COMPANY, NEW YORK, N. Y.	
5449	Bowker's Soluble Phosphate,	Henry Miller, Pocono Lake,
	CENTRAL CHEMICAL CO., THOMAS FERTILIZER WORKS, HAGERSTOWN, MD.	
5609	CCC Dissolved Phosphate, 16%,	L. H. Leiter & Brother, Greencastle,
	THE COE-MORTIMER COMPANY, NEW YORK, N. Y.	
5256	E. Frank Coe's High Grade Soluble Phosphate.	A. C. Buck, Aquashicola,
5494	E. Frank Coe's 16% Superphosphate,	G. C. Rogers, Clark Green,
	THE CONSUMERS CHEMICAL CORPORATION, NEW YORK, N. Y.	
5222	Consumers' High Grade Acid Phosphate,	J. M. Burke, Elmhurst,
5281	Consumers' Pure-Sure Acid Phosphate,	Amandus W. Woodring, Schwenksville,
	EUREKA CHEMICAL COMPANY, BALTIMORE, MD.	
5316	Eureka Soluble Phosphate,	W. H. Nesbit, McConnellsburg,
	FARMERS FERTILIZER WORKS, ELIZABETHTOWN, PA.	
5411	Acid Phosphate, 16%,	Mifflin County Hardware Co., Lewistown,
	GRIFFITH & BOYD COMPANY, BALTIMORE, MD.	
5201	High Grade Acid Phosphate,	Dayton Milling Co., Dayton,
4963	High Grade Acid Phosphate,	Garfield Milhous, Mendenhall,

PHOSPHATE FERTILIZERS.

Phosphoric Acid

	PHOSPHORIC ACID.							
	TOTAL.		AVAILABLE.		INSOLUBLE.			
Moisture.	Found.	Guaranteed.	Found.	Guaranteed.	Found.	Guaranteed.	Selling price per ton at place of selection.	Chemist's number.
%	%	%	%	%	%	%	$	
2.22	16.85	15.00	16.39	14.00	0.46	1.00	30.00	5218
3.65	17.86	17.00	17.09	16.00	0.77	1.00	23 30	5591
2.74	18.08	17.00	16.84	16.00	1.24	1.00	32 00	5220
5.07	12.50	11.00	11.99	10.00	0.51	1.00	23 00	5155
0.93	11.93	11.00	11.37	10.00	0.56	1.00	22 75	5655
4.33	13.61	11.00	13.00	10.00	0.61	1.00	24 00	5025
2.79	16.58	------------	14.64	13.00	1.94	----------	25 00	5115
4.25	15.49	------------	14.84	13.00	0.65	----------	26 50	5265
1.56	15.51	------------	13.55	13.00	1.96	----------	20 00	5388
6.36	17.65	17.00	17.31	16.00	0.34	1.00	26 00	5638
4.46	17.00	15.00	15.85	14.00	1.15	1.00	26 00	5367
2.40	17.46	16.50	16.36	16.00	1.10	0.50	27 50	5309
8.06	16.85	14.50	16.40	14.00	0.45	0.52	21 60	4981
6.00	16.39	14.00	16.28	14.00	0.11	----------	26 60	5336
7.50	16.93	16.00	16.79	16.00	0.14	----------	----------	5568
8.80	16.81	16.00	16.75	16.00	0.06	----------	----------	5355
3.63	16.71	15.00	14.83	14.00	1.88	1.00	25 00	5449
6.50	17.73	------------	16.88	16.00	0.85	----------	26 50	5609
7.22	15.79	15.00	14.37	14.00	1.42	1.00	27 00	5256
5.00	18.64	17.00	17.30	16.00	1.34	1.00	27 00	5494
6.80	16.83	17.00	16.73	16.00	0.10	1.00	24 00	5222
4.43	15.86	15.00	15.68	14.00	0.18	1.00	25 00	5281
2.81	15.64	14.50	14.85	14.00	0.79	0.50	24 30	5316
6.70	17.71	17.00	17.65	16.00	0.06	1.00	29 60	5411
4.13	17.63	15.00	17.43	14.00	0.20	1.00	24 50	5201
9.17	15.79	15.00	14.53	14.00	1.26	1.00	26 00	4963

TABLE IV.—ACIDULATED

Chemist's number.	Name of Manufacturer and Brand.	Sample Taken From—
	M. P. HUBBARD & COMPANY, BALTIMORE, MD.	
4921	Hubbard's Dissolved Phosphate,	D. Wagner Geiss, Bellefonte,
5019	Hubbard's Dissolved Phosphate,	M. J. Sheffer, Hanover,
5306	Hubbard's Dissolved Phosphate,	H. S. Suter, New Buena Vista,
5097	Hubbard's Soluble Phosphate,	A. L. Herr & Bro., Quarryville,
	KEYSTONE BONE FERTILIZER COMPANY, PHILADELPHIA, PA.	
5468	Keystone 14% Acid Phosphate,	O. V. Rannels, Rowena,
	KEYSTONE GRANGE EXCHANGE, MANSFIELD, PA.	
5147	Granger's Acid Phosphate, 16%,	N. E. Litterer, Strawberry Ridge,
5647	Granger's Acid Phosphate, 16%,	Clinton H. Pepper, West Brownsville,
5308	Granger's Acid Phosphate, 16%,	Robert Ross, Warriors Mark,
	KOLLER FERTILIZER COMPANY, SEITZLAND, PA.	
5534	Koller's High Grade Acid Phosphate,	Summit Lumber Co., New Freedom,
	LEBANON FERTILIZER WORKS, LEBANON, PA.	
4895	Levan's Acid Phosphate, 16%,	West Willow Farmers Association, West Willow.
	LISTERS AGRICULTURAL CHEMICAL WORKS, NEWARK, N. J.	
5321	Lister's High Grade Acid Phosphate,	Jacob Bowser, St. Clairsville,
4974	Listers' High Grade Acid Phosphate,	Wm. H. Fritz, Berwyn,
	THE MARTIN FERTILIZER COMPANY, PHILADELPHIA, PA.	
4967	Martin's Acid Phosphate, 14%,	Harry Pyle & Son, Chadds Ford Junction,
	THE MILLER FERTILIZER COMPANY, PHILADELPHIA, PA.	
5579	Acid Phosphate, 14%,	S. S. Sheller, Duncannon,
5008	Acid Phosphate, 16%,	L. F. Hildebrand, Loganville,
	NASSAU FERTILIZER COMPANY, NEW YORK, N. Y.	
5442	High Grade Superphosphate,	A. A. Chamberlain, Gouldsboro,
	NITRATE AGENCIES COMPANY, NEW YORK, N. Y.	
5081	N. A. C. Brand 16% Acid Phosphate,	D. W. Deitrick, Reading,
4888	N. A. C. Brand High Grade Acid Phosphate.	S. H. Landis, Lancaster,
	G. OBER & SONS COMPANY, BALTIMORE, MD.	
5420	Ober's Dissolved Phosphate, 14%,	Wm. Atkinson, McVeytown,
4939	Ober's Dissolved Phosphate, 14%,	F. T. Baker, Lewisburg,
5302	Ober's Dissolved Phosphate, 14%,	V. A. Stufft, Imler,
5346	Ober's High Grade Acid Phosphate, 16%,	W. J. Munholland, Mortonville,
4934	Ober's Tampa Acid Phosphate, 12%,	C. C. Catherman, Hartleton,
	PATAPSCO GUANO COMPANY, BALTIMORE, MD.	
5311	Battle Ax Phosphate,	Briggs Brothers, Mt. Union,
4985	Patapsco High Grade Acid Phosphate,	Ackermanville Milling Co., Ackermanville,
5599	Patapsco High Grade Acid Phosphate,	Jos. Burkholder, Hummelstown,
4984	Patapsco Pure Dissolved S. C. Phosphate,	Ackermanville Milling Co., Ackermanville,
5433	Patapsco Pure Dissolved S. C. Phosphate,	Hill Side Home, Clark Summit,

PHOSPHATE FERTILIZERS—Continued.

	PHOSPHORIC ACID.							
	TOTAL.		AVAILABLE.		INSOLUBLE.			
Moisture.	Found.	Guaranteed.	Found.	Guaranteed.	Found.	Guaranteed.	Selling price per ton at place of selection.	Chemist's number.
—								
%	%	%	%	%	%	%	$	
5.79	17.95	17.00	15.85	16.00	2.10	1.00	28 00	4921
2.15	18.82	17.00	16.96	16.00	1.86	1.00	24 50	5019
2.95	18.73	17.00	16.14	16.00	2.59	1.00	30 00	5306
5.34	**15.31**	15.00	13.95	14.00	1.36	1.00	25 00	5097
1.16	15.91	15.00	14.05	14.00	1.86	1.00	28 00	5468
2.71	18.19	16.00	15.97	16.00	2.22	----------	24 36	5147
1.89	18.43	16.00	16.48	16.00	1.95	----------	----------	5647
1.64	18.93	16.00	16.98	16.00	1.95	----------	24 85	5308
4.90	18.75	----------	18.28	14.00	0.47	----------	24 50	5534
5.20	17.95	17.00	17.73	16.00	0.22	1.00	24 50	4895
4.08	17.32	17.00	16.33	16.00	0.99	1.00	28 50	5321
6.44	17.31	17.00	16.30	16.00	1.01	1.00	28 50	4974
3.28	16.88	14.75	16.28	14.00	0.60	0.75	26 00	4967
3.33	15.54	14.50	14.34	14.00	1.20	0.50	26 50	5579
3.97	17.21	16.50	15.93	16.00	1.28	0.50	25 00	5008
4.11	18.00	17.00	16.64	16.00	1.36	1.00	26 00	5442
7.06	18.14	----------	17.81	----------	0.33	----------	20 50	5081
2.88	17.09	17.00	16.06	16.00	1.03	1.00	25 00	4888
7.36	14.67	15.00	14.26	14.00	0.41	1.00	28 50	5420
8.63	15.54	15.00	15.44	14.00	0.10	1.00	27 50	4939
5.76	15.58	15.00	15.50	14.00	0.08	1.00	26 00	5302
4.14	17.58	17.00	16.95	16.00	0.63	1.00	27 00	5346
7.11	16.38	13.00	16.24	12.00	0.14	1.00	26 00	4934
3.00	12.95	13.00	12.24	12.00	0.71	1.00	26 00	5311
6.50	17.64	17.00	16.25	16.00	1.39	1.00	29 00	4985
6.75	18.29	17.00	17.59	16.00	0.70	1.00	30 00	5599
5.28	16.09	15.00	14.66	14.00	1.43	1.00	27 00	4984
2.93	16.43	15.00	14.64	14.00	1.79	1.00	25 00	5433

TABLE IV.—ACIDULATED

Chemist's number.	Name of Manufacturer and Brand.	Sample Taken From—
	PIEDMONT MT. AIRY GUANO COMPANY, BALTIMORE, MD.	
5606	Piedmont 14% Acid Phosphate,	George Walker, Chambersburg,
5310	Piedmont 16% Acid Phosphate,	John G. Simpson, Huntingdon,
5607	Piedmont 16% Acid Phosphate,	George Walker, Chambersburg,
5283	Piedmont 16% Acid Phosphate,	Harvey Woodring, Schenksville,
	THE POLLOCK FERTILIZER COMPANY, BALTIMORE, MD.	
4926	High Grade Superphosphate,	H. K. Mattern, Julian,
5330	High Grade Superphosphate,	Richard Scully, Pomeroy,
5329	Magic Phosphate,	Richard Scully, Pomeroy,
	RASIN-MONUMENTAL COMPANY, BALTIMORE, MD.	
4997	Rasin's 16% Acid Phosphate,	Farmers' Union, Easton,
4998	Rasin's 16% Acid Phosphate,	Lewis E. Gravers, Easton,
5528	Rasin's Seawall Special,	R. K. Boyer, Glatfelter,
5018	Rasin's Seawall Special,	J. D. Markle, Hanover,
	READING BONE FERTILIZER COMPANY, READING, PA.	
5221	14% Clear Acid Phosphate,	J. Williams, Elmhurst,
5616	16% Clear Acid Phosphate,	A. H. Curtis, Creamton,
	THE SCOTT FERTILIZER COMPANY, ELKTON, MD.	
5567	Scott's Tip Top Soluble Phosphate, 14%,	E. D. Greenawalt, Albany,
4987	Scott's Tip Top Soluble Phosphate, 16%,	Wm. F. Beck, Easton,
5051	Scott's Tip Top Soluble Phosphate, 16%,	S. Book & Brother, Quarryville,
	STANDARD GUANO COMPANY, BALTIMORE, MD.	
5544	16% Acid Phosphate,	E. Chas. Mathias, Littlestown,
	SWIFT & COMPANY, INC., BALTIMORE, MD.	
4990	Swift's High Grade Acid Phosphate,	Charles R. Beers, Easton,
4951	Swift's High Grade Acid Phosphate,	Adam Schmehl, North Wales,
	I. P. THOMAS & SON COMPANY, PHILADELPHIA, PA.	
4999	16% Acid Phosphate,	George A. Hayden, Nazareth,
5334	16% Acid Phosphate,	James K. Lewis, Honeybrook,
4917	S. C. Phosphate,	Ira Harpster, Warriors Mark,
5158	S. C. Phosphate,	C. R. Henrie, Millville,
5313	S. C. Phosphate,	C. E. Starr, Three Springs,
	THE J. E. TYGERT COMPANY, SUBSIDIARY OF THE AMERICAN AGRICULTURAL CHEMICAL COMPANY, PHILADELPHIA, PA.	
5246	16% Acid Phosphate,	G. E. Miller, Lake Ariel,
	VIRGINIA-CAROLINA CHEMICAL COMPANY OF DELAWARE, BALTIMORE, MD.	
5322	V.-C. 14% Acid Phosphate,	Blair Knisley, Reynoldsville,
	WASHINGTON, ALEXANDER & COOKE COMPANY, CHARLESTOWN, W. VA.	
5176	W. A. & C's Acid Phosphate,	E. S. Kelly, Gettysburg,
5418	W. A. & C's Acid Phosphate,	Ed. Nipple, Walnut,

PHOSPHATE FERTILIZERS—Continued.

Moisture.	PHOSPHORIC ACID. TOTAL. Found.	PHOSPHORIC ACID. TOTAL. Guaranteed.	PHOSPHORIC ACID. AVAILABLE. Found.	PHOSPHORIC ACID. AVAILABLE. Guaranteed.	PHOSPHORIC ACID. INSOLUBLE. Found.	PHOSPHORIC ACID. INSOLUBLE. Guaranteed.	Selling price per ton at place of selection.	Chemist's number.
%	%	%	%	%	%	%	$	
2.63	15.42	15.00	14.88	14.00	0.54	1.00	25 25	5606
4.94	17.91	----------	17.27	16.00	0.64	----------	29 00	5310
3.21	17.74	----------	17.20	16.00	0.54	----------	26 65	5607
4.07	17.67	----------	16.59	16.00	1.08	----------	25 00	5283
8.15	16.21	17.00	16.06	16.00	0.15	1.00	30 00	4926
3.65	17.95	17.00	16.97	16.00	0.98	1.00	26 50	5330
4.00	13.41	11.00	12.75	10.00	0.63	1.00	24 00	5329
6.05	17.88	17.00	17.50	16.00	0.38	1.00	21 90	4997
6.12	17.51	17.00	17.29	16.00	0.22	1.00	21 90	4998
4.25	13.50	11.00	12.67	10.00	0.83	1.00	22 25	5528
4.20	12.11	11.00	11.60	10.00	0.42	1.00	23 00	5018
1.29	16.53	15.00	15.10	14.00	1.43	1.00	26 00	5221
2.10	18.70	17.00	17.92	16.00	0.78	1.00	35 00	5616
7.96	15.89	15.00	14.53	14.00	1.36	1.00	25 00	5507
8.69	17.35	17.00	16.52	16.00	0.83	1.00	25 35	4987
9.72	16.99	17.00	15.96	16.00	1.03	1.00	25 00	5051
8.96	16.20	16.50	16.09	16.00	0.11	0.50	22 00	5544
4.98	17.67	16.00	16.52	16.00	1.15	----------	26 25	4990
3.01	18.66	16.00	15.99	16.00	2.67	----------	----------	4951
8.40	17.50	16.50	16.57	16.00	0.93	0.50	----------	4999
7.72	17.46	16.50	17.26	16.00	0.20	0.50	26 00	5334
8.90	16.00	14.50	15.81	14.00	0.19	0.50	25 00	4917
9.66	17.42	14.50	17.28	14.00	0.14	0.50	26 00	5158
3.69	16.91	14.50	16.30	14.00	0.61	0.50	27 00	5318
1.92	18.94	17.00	18.72	16.00	0.22	1.00	27 00	5246
2.63	15.19	15.00	14.59	14.00	0.60	1.00	27 00	5322
4.34	16.65	15.00	15.30	14.00	1.35	1.00	24 25	5176
1.65	15.74	15.00	15.22	14.00	0.52	1.00	24 50	5418

TABLE IV.—ACIDULATED

Chemist's number.	Name of Manufacturer and Brand.	Sample Taken From—
	THE ROBERT A. WOOLDRIDGE COMPANY, SUBSIDIARY OF THE AMERICAN AGRICULTURAL CHEMICAL COMPANY, BALTIMORE, MD.	
5150	Wooldridge's Dissolved Soluble Phosphate,	H. V. Smith, Turbotville,
	YORK CHEMICAL WORKS, YORK, PA.	
5575	Dempwolf's Superphosphate,	M. D. Ebersole, Middletown,
5605	Dempwolf's Superphosphate,	Enos H. Horst, Chambersburg,
		Average,

PHOSPHATE FERTILIZERS—Concluded.

Moisture.	PHOSPHORIC ACID,						Selling price per ton at place of selection.	Chemist's number.
	TOTAL.		AVAILABLE.		INSOLUBLE.			
	Found.	Guaranteed.	Found.	Guaranteed.	Found.	Guaranteed.		
%	%	%	%	%	%	%	$	
1.88	13.32	11.00	12.25	10.00	0.57	1.00	24 00	5150
7.45	17.18	------------	17.10	16.00	0.08	----------	26 50	5575
7.00	17.77	------------	17.67	16.00	0.10	----------	26 75	5605
4.90	16.69	------------	15.83	------------	0.86	----------	25 89	----------

TABLE NO. V.—ROCK AND

Furnishing Phosphoric

Chemist's number.	Name of Manufacturer and Brand.	Sample Taken From—
	THE AMERICAN AGRICULTURAL CHEMICAL COMPANY, NEW YORK, N. Y.	
5270	Dissolved Phosphate and Potash,	A. L. Yoder, Ashland,
5204	Star Phosphate with Potash,	Wm. Gates Estate, Kittanning,
5156	Star Phosphate with Potash,	Mrs. J. H. Kase Estate, Riverside,
	BAUGH & SONS COMPANY, PHILADELPHIA, PA.	
4929	Baugh's Phosphate and Potash Mixture, 12 and 1.	R. D. Forman, Center Hall,
5171	Baugh's Phosphate and Potash Mixture, 12 and 1.	E. M. Neely, New Oxford,
4930	Baugh's Soluble Alkaline Superphosphate, 10 and 2.	R. D. Forman, Center Hall,
5180	Baugh's Soluble Alkaline Superphosphate, 10 and 2.	G. C. Myers, Gardners,
	THE CONSUMERS' CHEMICAL CORPORATION, NEW YORK, N. Y.	
5626	Consumers' Pure-Sure Potash Mixture,	E. B. Jermyn, Waymark,
	GRIFFITH & BOYD COMPANY, BALTIMORE, MD.	
5038	Special Grain Grower,	Ezra Groff, Bareville,
5088	Special Grain Grower,	A. L. Hartman, Schaefferstown,
5422	Special Grain Grower,	J. Frank Hays, Reedsville,
	THE HUBBARD FERTILIZER COMPANY, BALTIMORE, MD.	
5187	Hubbard's Phosphate and Potash,	D. E. Brant, East Berlin,
5075	Hubbard's Phosphate and Potash,	J. Swope & Son, Myerstown,
5021	Hubbard's Alkaline 12 and 1,	N. E. Gobrecht, Hanover,
5074	Hubbard's Alkaline 12 and 1,	J. Swope & Son, Myerstown,
	G. OBER & SONS COMPANY, BALTIMORE, MD.	
5568	Ober's 10% Superphosphate and Potash,	A. M. Brandt, Campbelltown,
5024	Ober's 10% Superphosphate and Potash,	J. H. Duttera, New Oxford,
5301	Ober's 10% Superphosphate and Potash,	V. A. Stufft, Imler,
	RASIN-MONUMENTAL COMPANY, BALTIMORE, MD.	
5502	Rasin's Phosphate and Potash, Revised,	Wm. H. Siegfried, Kempton,
	F. S. ROYSTER GUANO COMPANY, BALTIMORE, MD.	
5349	Royster's Phosphate and Potash Mixture, (10-1).	G. W. Walton Hardware Co., Beaver,
5087	Royster's Phosphate and Potash Mixture, (10-2).	S. A. Phillipy, Myerstown,
5366	Royster's Phosphate and Potash Mixture, (12-1).	H. E. Mullen, Christiana,
	SCOTT FERTILIZER COMPANY, ELKTON, MD.	
4988	Scott's Soluble Phosphate and Potash, 12-2,	Wm. F. Beck, Easton,
5499	Scott's Soluble Phosphate and Potash, 12-2,	J. M. Leibensprecher, Fleetwood,
5112	Scott's Soluble Phosphate and Potash, 12-2,	Reynolds & Kershner, Witmer,

POTASH FERTILIZERS.

Acid and Potash.

Moisture.	PHOSPHORIC ACID.						POTASH.				Selling price per ton at place of selection.	Chemist's number.
	Total.		Available.		Insoluble.							
	Found.	Guaranteed.	Found.	Guaranteed.	Found.	Guaranteed.	Found.	Guaranteed.	Present as muriate.	Present as sulphate.		
%	%	%	%	%	%	%	%	%	%	%	$	
5.42	12.50	11.00	11.84	10.00	0.66	1.00	*1.30	2.00	--------	1.30	28 50	5270
5.95	11.20	11.00	10.09	10.00	1.11	1.00	1.07	1.00	1.07	--------	33 00	5204
4.85	12.72	11.00	11.62	10.00	1.10	1.00	1.15	1.00	0.75	0.40	30 00	5156
4.45	14.72	12.00	*10.92	12.00	3.80	------	0.87	1.00	0.87	--------	32 50	4929
4.30	14.39	12.00	*10.33	12.00	4.06	------	0.88	1.00	0.88	--------	30 00	5171
8.58	13.67	10.00	10.05	10.00	3.62	------	1.88	2.00	1.88	--------	37 00	4930
4.98	11.11	10.00	*8.83	10.00	2.28	------	*1.78	2.00	1.78	--------	37 00	5180
3.85	12.95	11.00	11.59	10.00	1.36	1.00	1.20	1.00	--------	1.20	31 00	5626
6.38	12.55	11.00	11.26	10.00	1.29	1.00	*1.60	2.00	--------	1.60	36 00	5038
7.13	11.57	11.00	10.92	10.00	0.65	1.00	1.95	2.00	1.95	--------	--------	5088
6.44	10.84	11.00	10.06	10.00	0.78	1.00	2.02	2.00	0.50	1.52	36 00	5422
3.98	12.25	11.00	11.18	10.00	1.07	1.00	1.86	2.00	--------	1.86	34 00	5187
5.78	14.25	11.00	12.97	10.00	1.28	1.00	*1.46	2.00	1.46	--------	36 00	5075
5.56	16.12	13.00	12.87	12.00	3.25	1.00	0.96	1.00	0.96	--------	30.40	5021
6.74	14.90	13.00	14.25	12.00	0.65	1.00	1.00	1.00	1.00	--------	36 00	5074
7.45	13.05	11.00	11.85	10.00	1.20	1.00	*1.75	2.00	0.85	0.90	35 00	5068
8.31	11.98	11.00	10.86	10.00	1.12	1.00	2.64	2.00	2.64	--------	33 90	5024
3.78	12.11	11.00	11.15	10.00	0.96	1.00	2.02	2.00	1.25	0.77	36 00	5301
6.15	10.98	11.00	10.10	10.00	0.88	1.00	1.10	1.00	1.10	--------	28 50	5502
3.51	10.75	10.50	*9.60	10.00	1.15	0.50	0.89	1.00	0.55	0.34	33 25	5349
3.84	10.70	10.50	*9.49	10.00	1.21	0.50	*1.67	2.00	0.89	0.78	--------	5087
3.10	13.22	12.50	11.97	12.00	1.25	0.50	1.03	1.00	1.03	--------	31 00	5366
8.56	12.90	14.00	12.15	12.00	0.75	2.00	1.92	2.00	--------	1.92	34 60	4988
8.81	13.14	14.00	12.44	12.00	0.70	2.00	1.86	2.00	--------	1.86	35 00	5499
8.97	13.25	14.00	12.54	12.00	0.71	2.00	1.93	2.00	--------	1.93	36 50	5112

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*Deficient.

TABLE V.—ROCK AND

Chemist's number.	Name of Manufacturer and Brand.	Sample Taken From—
	SWIFT & COMPANY, INC., BALTIMORE, MD.	
5004	Swift's Special Phosphate and Potash, ----	Cook Grain, Feed & Supply Co., Dillsburg,
5471	Swift's Special Phosphate and Potash, ----	D. H. Engle & Son, Herndon, ------------
4966	Swift's Special Phosphate and Potash, ----	W. B. Gochenauer, Lititz, ---------------
	YORK CHEMICAL WORKS, YORK, PA.	
5577	Dempwolf's Ten and Two, ------------------	M. D. Ebersole, Middletown, -------------
5161	Dempwolf's Ten and Two, ------------------	J. S. Lockard, Millville, -----------------
		Average, ------------------------------

POTASH FERTILIZERS—Concluded.

Moisture.	PHOSPHORIC ACID.						POTASH.				Selling price per ton at place of selection.	Chemist's number.
	Total.		Available.		Insoluble.							
	Found.	Guaranteed.	Found.	Guaranteed.	Found.	Guaranteed.	Found.	Guaranteed.	Found.	Guaranteed.		
%	%	%	%	%	%	%	%	%	%	%	$	
4.18	12.96	10.00	10.59	10.00	2.37	------	1.84	2.00	1.84	--------	35 40	5004
4.31	11.62	10.00	*9.08	10.00	2.54	------	2.38	2.00	2.38	--------	32 50	5471
5.47	11.81	10.00	*9.69	10.00	2.12	------	*1.79	2.00	1.79	--------	36 00	4906
4.57	10.65	10.50	10.11	10.00	0.54	0.50	2.02	2.00	--------	2.02	34 00	5577
6.09	10.77	10.50	10.53	10.00	0.24	0.50	2.04	2.00	1.05	0.99	26 00	5161
5.71	12.52	--------	11.03	--------	1.49	------	1.60	--------	--------	--------	33 39	--------

*Deficient.

TABLE NO. VI.—MISCELL

Chemist's number.	Name of Manufacturer and Brand.	Sample Taken From—
	FEDERAL CHEMICAL COMPANY, LOUISVILLE, KY.	
5319	Daybreak Tennessee Brown Phosphate Rock,	H. F. Gump & Son, Everett,
	LISTER'S AGRICULTURAL CHEMICAL WORKS, NEWARK, N. J.	
4903	Lister's Celebrated Ground Bone and Tankage, Acidulated.	Levi K. Zigler, Lititz,
	NITRATE AGENCIES COMPANY, NEW YORK, N. Y.	
5013	N. A. C. Brand Ground Tankage,	Dover Farmers' Cooperative Association, Dover.
4887	N. A. C. Brand Ground Tankage,	S. H. Landis, Lancaster,
4890	N. A. C. Brand Nitrate of Soda,	S. H. Landis, Lancaster,
	J. E. SHIPMAN, SHAMOKIN, PA.	
5633	Tankage,	E. C. Ross, Sunbury,
	YORK CHEMICAL WORKS, YORK, PA.	
5193	Dried Ground Blood,	Red Lion Farmers' Cooperative Association, Red Lion.

ANEOUS FERTILIZERS.

Moisture.	Nitrogen.		Total Phosphoric Acid.		Selling price per ton at place of selection.	Chemist's number.
	Found.	Guaranteed.	Found.	Guaranteed.		
%	%	%	%	%	$	
1.56	----------	----------	*27.44	29.75	15 00	5310
8.37	2.80	2.67	12.31	12.00	42 20	4903
5.33	6.50	5.75	*5.65	6.86	78 00	5013
5.69	5.86	5.75	6.81	6.86	78 00	4887
1.00	15.81	15.00	----------	----------	105 00	4890
6.36	6.96	----------	10.73	----------	60 00	5686
8.53	13.65	13.16	----------	----------	132 60	5193

*Deficient.